

# **Background Report to the OECD Territorial Review on the Milan Metropolitan Area**

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## **PART 1**

**Socio-economic trends,  
local competitive advantages and unused potentials**

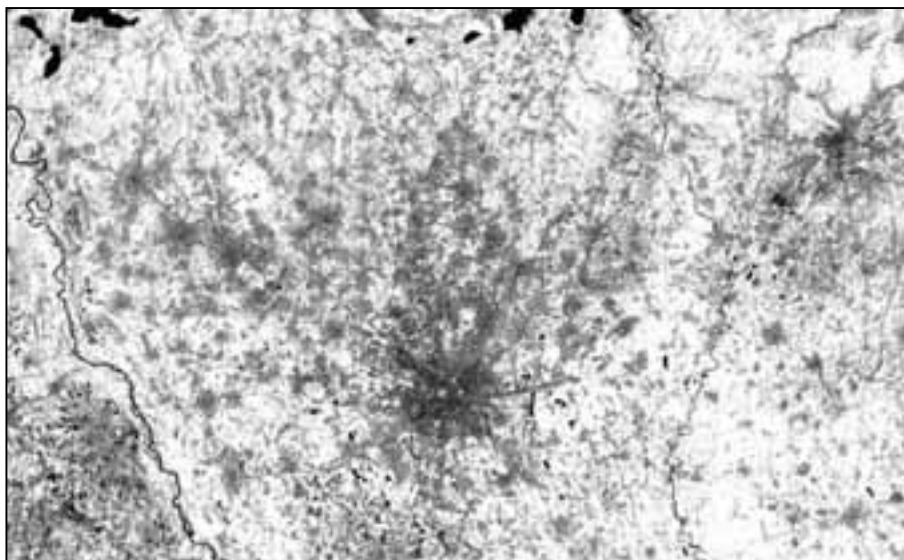
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## 1.1. DEFINITION OF THE AREA OF ANALYSIS

### 1.1.1. The definition of the Milan metropolitan area

Figure 1.1.1 - Satellite image of the Milan urban region



The area under review lies between the boundaries of the Province of Milan, the same administrative area as the Milan Chamber of Commerce (see § 3.1. for a definition of tasks and role of those two institutions). As we will see, the question of defining the target area when studying regional trends in the Milan area is not easy, since different problems let us define the area under review in different ways.

In the following paragraphs we will therefore try to show different ways of limiting the area under review and in the end we will explain why we have chosen the area that lies within the boundaries of the Province of Milan.

Since Milan is characterised by small municipal boundaries (municipal area of 181 sq. Km, even though different rounds of annexion of smaller municipalities took place in 1873 and 1904-1924), the problem of government for a number of territorial issues that passed those boundaries rose in the Fifties, and was taken into account by researchers and policy makers in the succeeding decade.

The question of a spatial and territorial reorganisation of the governance system has been relevant in the public debate since the Sixties, as we will see more in depth. Since then, a number of reorganisation proposals have been advanced, starting from different territorial images of the area. During the Fifties, it emerged clearly to planners and policy makers that the Milan area was far larger than the Milan municipal boundaries, and that in order to more effectively cope with the various urban problems (urban planning, infrastructural networks) it was necessary to think to a new territorial entity.

This debate was present also in other large metropolitan areas in Italy, but was somewhat characteristic of the area of Milan due to the sharp population increase and the consequent increase in urban size and the growing complexity of the problems that Milan was facing. One first result of this period was the foundation in 1961 of the Piano Intercomunale Milanese (PIM), an association of municipalities with the objective of designing a new master plan for the whole area, a theme that was raised again more than a decade later with the institutions of *comprensori* (Planning districts). Up to now, notwithstanding extensive debate both at political and technical level, there has not been the definition of a new administrative level in order to cope with those issues.

There are two families of possible representations of the area: the first one, which is relevant in urban and regional studies, is based on a *synthesis* of the multiple characters by way of morphological representations of the characters of its parts; the second one, which tends to work on the *aggregation* and sum of different units, comes from a functional analysis of the distribution of services.

We will review the two representation starting from the first one. We have in the first place the presence of a complex and multi-faceted urban system, in which the urban transformation and the intense urbanisation process that took place in the second half of the Twentieth century impacted on a territorial framework that had some specific features, and this led in turn to the consolidation of an urban image that relies upon different systems:

a core urban area, very dense, with distinct urban features, and which is larger than the municipal boundaries of Milan;

two dense conurbations, that include the areas of Simplon (north west of the core) and Brianza (north);

the networks, less dense areas of Magenta, Saronno and Vimercate (going clockwise from west to east);

the low density areas South of Milan.

More in detail:

The core urban area is formed by the city of Milan and the first belt of municipalities just around its borders. It is important to underline that in this belt area lie important municipalities like Monza (117.000 inhabitants), Sesto San Giovanni (75.000), Cinisello Balsamo (72.000), Rho (51.000), Cologno Monzese (47.000), Bollate (46.000), Rozzano (35.000), Corsico (32.000), San Donato Milanese (31.000) and others. This area loses population in the last years, even if not at the same speed as the city of Milan itself (see § 1.2 for details).

The dense conurbations are characterised by the presence of large municipalities that are linked in a continuum (Gallarate, Busto Arsizio, Castellanza, Legnano in the Simplon area; Seregno, Desio, Seveso, Meda, Cesano Maderno in the Brianza area); these two areas are characterised since many years by levels of services comparable to that of the core areas (except for finance and other rare functions).

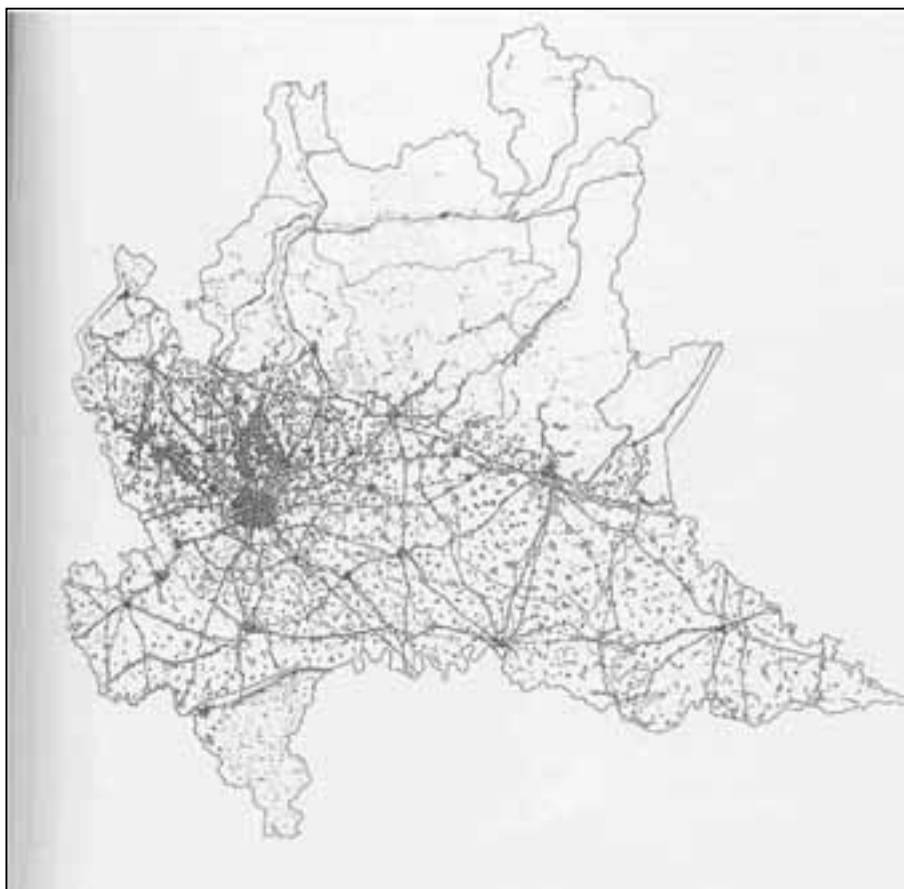
This third territorial pattern concerns less dense areas that are disposed in a network pattern, originally linked to the agricultural pattern, but that has progressively densified following the increasing population trends.

This large area that lies south of the city of Milan has had a somewhat distinct urban development due to a much longer performance of agriculture and of its territorial patterns than in the other three contexts. Therefore, apart from large but isolated developments realised in recent years, it is still characterised by the presence of rural areas and of small urban settlements, that do not become conurbations as yet, apart from the urbanisations that lie along major transport axes.

Moreover, North of this complex urban area, lies a second very important territorial system, the Pedemontana (piedmont) area, characterised by a linear urbanisation along the first reliefs and by the presence of medium size towns (Varese, Como, Lecco, Bergamo) in the northern part and smaller urban centres in the middle.

This area lies almost entirely outside the boundaries of the Province of Milan, but holds strict territorial and economic relations with the area inside, with an interesting dynamic interaction between the central core area (Milan and the municipalities around its boundaries) and the piedmont zone.

Such pattern is shown more extensively in Figure 1.1.2, which shows the whole Region Lombardy and the role played by the Milan area in its context.

**Figure 1.1.2** - Different territorial patterns in Lombardy region (P.C. Palermo (ed.), 1997)

### 1.1.2. The different functional subdivisions: a metropolitan area as a jigsaw

The idea of an overall view over the Milan metropolitan area has been replaced, in the recent years, by a number of images emerging from the sum of functional areas: that is to say, for instance, the subdivisions due to the supply of different public services, from sanitary structures to water management and so on. Each of these images is the result of an aggregation of smaller units, the smallest being the single municipality, to go to districts and the Province itself.

We have a number of examples of subdivision of the area in smaller districts for the organisation and supply of different public service, from public health to employment, to water management and so on.

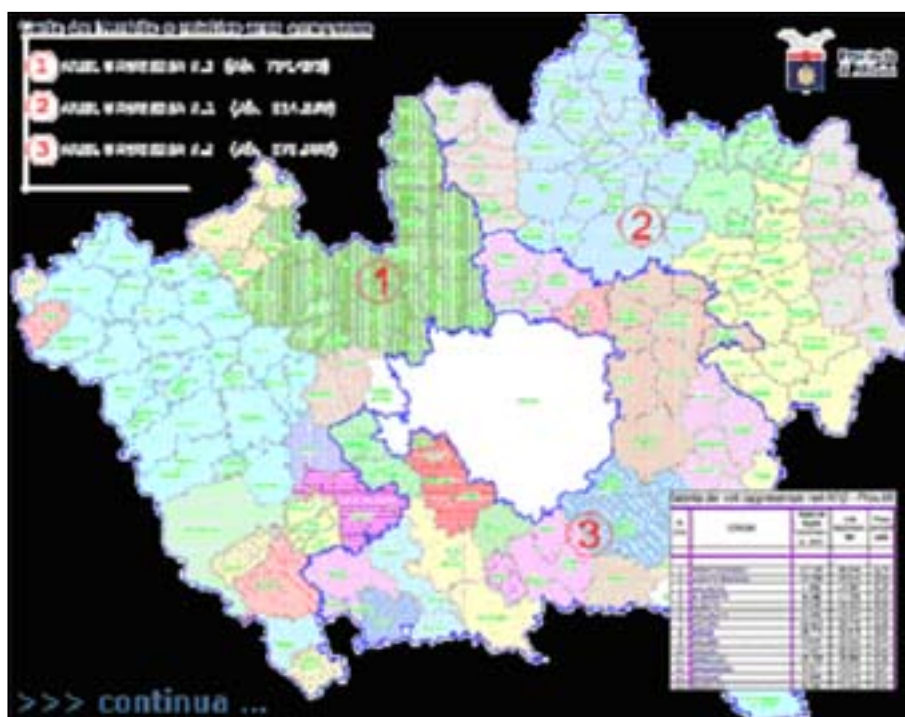
**Table 1.1.1** - Public health districts

Name of sanitary district	Area
ASL Città di Milano	Milano
ASL Provincia di Milano - 1	Magenta
ASL Provincia di Milano - 2	Melegnano
ASL Provincia di Milano - 3	Monza

*Source: Water management authorities (ATO).*

The Province of Milan is divided in two different areas as far as water management is concerned: one area (ATO) is the Municipality of Milan, the other one covers all the remaining 188 municipalities, and it is in turn divided into three sub-areas:

Figure 1.1.3 - The choice of the area under review



For this Background report we decided to focus on the area of the Province of Milan, which includes 189 municipalities and a population of almost four million people (3.741.069, Istat 2001). This area is relatively stable in terms of population (the core area loses inhabitants, while the larger region around the Province of Milan grows), and holds specific characters that will be described in depth in the following chapters. This area has been chosen because it lies within the boundaries of the local administration and it is, at the same time, the territory of the Camera di Commercio (Chamber of Commerce, see § 3.1).

### References

- S. Boeri, A. Lanzani, E. Marini, *Il territorio che cambia. Ambienti, paesaggi, immagini della regione urbana milanese*, Abitare Segesta, Milano, 1993
- P.C. Palermo (a cura di), *Linee di assetto e scenari evolutivi della regione urbana milanese. Atlante delle trasformazioni insediative*, Angeli, Milano, 1997
- A. Bonomi e A. Abruzzese (a cura di), *La città infinita*, Bruno Mondadori, Milano, 2004
- A. Lanzani, "Un'insolita rappresentazione per la governance della regione urbana lombardo-milanese", *Territorio*, 29-30, 2004
- A. Balducci, "Milano dopo la metropoli. Ipotesi per la costruzione di un'agenda pubblica", *Territorio*, 29-30, 2004

## 1.2. DEMOGRAPHY

The province of Milan, with 3.775.765 residents at December 31, 2003, is the most populous in Italy (the province of Naples had 3,758,015 residents at the end of 2003), and one of the most populous in Europe (Table 1.2.1). Although its surface (1,982 sq. km.) is only 8.3 per cent of the total area of Lombardy, it is inhabited by more than 40 per cent of the entire regional population, with a very high population density (1,982 residents per sq. Km).

**Table 1.2.1** - Residents as of December 31, 2003

	Males	Females	Total	%
Milan (Municipality)	597,010	674,888	1,271,898	2.2
Milan (province)	1,822,138	1,953,627	3,775,765	6.5
Varese	402,189	427,440	829,629	1.4
Como	268,821	282,834	551,655	1.0
Sondrio	87,294	91,099	178,393	0.3
Bergamo	496,212	507,596	1,003,808	1.7
Brescia	566,457	583,311	1,149,768	2.0
Pavia	243,287	261,474	504,761	0.9
Cremona	166,938	175,906	342,844	0.6
Mantova	187,848	198,052	385,900	0.7
Lombardia	4,497,954	4,748,842	9,246,796	16.0
North-West	7,369,232	7,847,293	15,216,525	26.3
North-East	5,298,785	5,585,244	10,884,029	18.8
Centre	5,352,291	5,771,768	11,124,059	19.2
South	6,823,148	7,194,126	14,017,274	24.2
Islands	3,225,152	3,421,206	6,646,358	11.5
Italy	28,068,608	29,819,637	57,888,245	100.0

Source: Istat.

Large part of the population of the province is today concentrated in Milan (1,271,898 inhabitants at the end of 2003) and in the surrounding towns, which form with the most important city of Northern Italy a huge, integrated united area which comprises large part of the province of Milan, as well as part of the neighbouring provinces of Varese, Lecco and Como (Table 1.2.2).

**Table 1.2.2** - Main municipalities in the province of Milan by number of inhabitants, 2003

	1.1.2003	31.12.2003	Difference	%
Milan	1,247,052	1,271,898	24,846	2.0
Monza	121,233	121,618	385	0.3
Sesto San Giovanni	78,701	79,131	430	0.5
Cinisello Balsamo	72,260	72,852	592	0.8
Legnano	54,051	54,854	803	1.5
Rho	51,244	51,136	-108	-0.2
Bollate	47,495	48,356	861	1.8
Cologno Monzese	47,983	48,301	318	0.7
Paderno Dugnano	45,615	45,677	62	0.1
Seregno	39,193	39,227	34	0.1
Rozzano	37,197	37,798	601	1.6
Desio	35,434	36,522	1,088	3.1
Lissone	35,452	36,401	949	2.7
Cesano Maderno	33,728	34,228	500	1.5
Corsico	33,711	33,824	113	0.3
Segrate	33,061	33,196	135	0.4
San Donato Milanese	32,460	32,827	367	1.1

San Giuliano Milanese	31,656	32,814	1,158	3.7
Pioltello	32,134	32,248	114	0.4
Brugherio	31,685	32,164	479	1.5
Limbate	31,456	31,798	342	1.1
Abbiategrasso	28,057	28,890	833	3.0
Cernusco sul Naviglio	27,861	28,067	206	0.7
Garbagnate Milanese	27,398	27,189	-209	-0.8
Bresso	27,123	27,121	-2	0.0
Vimercate	25,581	25,739	158	0.6
Buccinasco	25,098	25,391	293	1.2
Parabiago	24,173	24,463	290	1.2
Lainate	23,926	24,024	98	0.4
Cesano Boscone	23,427	23,253	-174	-0.7
Magenta	22,959	23,161	202	0.9
Nova Milanese	22,282	22,406	124	0.6
Giussano	22,116	22,371	255	1.2
Muggiò	21,733	21,971	238	1.1
Meda	21,420	21,709	289	1.3
Peschiera Borromeo	20,278	20,576	298	1.5
Cornaredo	19,987	20,188	201	1.0

Source: Istat.

This notwithstanding, some towns of the hinterland (Monza, Sesto San Giovanni, Cologno Monzese, Cinisello, San Donato Milanese, Legnano, Rho, Paderno Dugnano, etc.) still maintain their peculiar characteristics. Of all the municipalities of the province, 6 have more than 50,000 inhabitants and 30 have more than 20,000 inhabitants (Table 1.2.3).

**Table 1.2.3** - Municipalities of the province of Milan, by number of residents, 31.12.2003

	Municipalities		Residents	
	No.	%	No.	%
Less than 5,000 inhabitants	59	29.8	179,065	4.7
5,001-20,000 inhabitants	95	50.5	1,003,311	26.6
2,001-50,000 inhabitants	31	16.5	941,900	24.9
Over 50,000 inhabitants	6	3.2	1,651,489	43.7
Total	191	100.0	3,775,765	100.0

Source: Istat.

### 1.2.1. Long-run trends: growth and decline

The population of Milan and of its province grew remarkably after WW II and in the first half of the seventies the number of inhabitants exceeded the threshold of 4 millions, while the city of Milan was nearly 1,800,000 units (Table 1.2.4). In these years, the increase of the population was mainly feeded by a steady domestic migration from Southern Italian regions.

**Table 1.2.4** - Population by geographic area, 1861-2003

	Milan (municipality)		Milan (province)		Lombardy		Italy	
	Population	%	Population	%	Population	%	Population	%
1861	267,618	1.2	863,824	3.9	3,160,481	14.3	22,176,586	100.0
1871	290,514	1.1	918,601	3.4	3,528,732	12.9	27,299,089	100.0
1881	354,041	1.2	1,012,467	3.5	3,729,927	12.9	28,951,545	100.0
1901	538,478	1.6	1,311,563	4.0	4,313,893	13.1	32,963,316	100.0
1911	701,401	2.0	1,574,535	4.4	4,889,178	13.6	35,841,613	100.0
1921	818,148	2.1	1,729,374	4.4	5,186,288	13.2	39,396,757	100.0



1931	960,660	2.3	1,974,787	4.8	5,595,915	13.6	41,043,489	100.0
1936	1,115,768	2.6	2,175,400	5.1	5,836,342	13.8	42,398,509	100.0
1951	1,274,154	2.7	2,505,153	5.3	6,566,154	13.8	47,515,537	100.0
1961	1,582,421	3.1	3,156,815	6.2	7,406,152	14.6	50,623,569	100.0
1971	1,732,000	3.2	3,903,685	7.2	8,543,387	15.8	54,136,547	100.0
1981	1,604,773	2.8	3,839,006	6.8	8,891,652	15.7	56,556,911	100.0
1991	1,369,295	2.4	3,738,685	6.6	8,856,074	15.6	56,778,031	100.0
2001	1,256,211	2.2	3,707,210	6.5	9,032,554	15.8	56,995,744	100.0
2002	1,247,052	2.2	3,721,428	6.5	9,108,645	15.9	57,321,070	100.0
2003	1,271,898	2.2	3,775,765	6.5	9,246,796	16.0	57,888,245	100.0

Source: Istat.

In the eighties the trend inverted and the population began to decrease in the province and particularly in the municipality of Milan. On the one side, the natural demographic balance became negative, due to a sharp decrease in the birth rates, which are in Italy among the lowest in the world. On the other side, the net domestic migratory flows decreased remarkably and was no more enough to counterbalance the natural demographic balance. The impact of migratory flows from abroad was non relevant at that time.

On the contrary, the population of Lombardy kept on growing for the whole period and at the end of the 20th century achieved the threshold of 9 million units (against 4.3 millions and the beginning of the century), which now has been largely surpassed.

Since the half of the seventies up today the number of residents in the province of Milan decreased by more than 250,000 units, with different trends for Milan and for the rest of the province. Problems of urban congestion, the desire to improve the quality of the environment and the high prices of the real estate market in the centre of Milan lead to a redistribution of the population in the metropolitan area, towards the peripheral centres. In the last 30 years the city of Milan lost more than 450,000 inhabitants. Most of these transfers took place within the province (the rest of the province gained in nearly 250,000 inhabitants in the same period) and towards the other provinces of the region. Various town in the suburb of Milan experienced in that period a remarkable demographic growth.

### 1.2.2. Recent trends: a new growth phase pushed by foreign migration

In the early years of the 21st century the balance of the population of the province of Milan began being positive again, mainly as a consequence of migratory flows from abroad. In 2003 the population grew by 54,337 units to a total of 3,775,765 (Table 1.2.5). The growth rate of population was the same as the whole Lombardy (+1.5 per cent), while the Italian population grew by 1 per cent. These increases were largely due to the laws promulgated in 2002 concerning the enrolment at the registry office of previously unregistered foreign citizens working in Italy.

**Table 1.2.5 - Population and demographic movements, 2003**

	Population at December 31, 2003				Annual growth	
	Males	Females	Total	%	Total	%
Province of Milan	1,822,138 48.3%	1,953,627 51.7%	3,775,765 100.0%	6.5	54,337	1.5
Lombardy	4,497,954 48.6%	4,748,842 51.4%	9,246,796 100.0%	16.0	138,151	1.5
Italy	28,068,608 48.5%	29,819,637 51.5%	57,888,245 100.0%	100.0	567,165	1.0

Source: Istat.

In the province of Milan, the growth of 54,337 residents is due to the following movements (Table 1.2.5):

- the natural population growth was positive by 1,222 units, as a result of 36,149 births and 34,927 deaths;
- the foreign net migratory balance was positive (+29,772 units);
- the domestic net migratory balance was instead negative (-12,084 units). It is worth noting that the domestic net migratory balance for the whole Lombardy was positive: +11,000 units);
- 35,427 more units are due to statistical adjustments following the census in 2001 (i.e. inhabitants which escaped the census or which were censused more times or in a municipality in which they not have permanent address).

The enrolment at the registry office of previously unregistered foreign citizens working in Italy will have effect also in 2004, since not all the procedures has been concluded by the end of 2003, owing to the large number of enquiries presented simultaneously.

**Table 1.2.6 - Population and demographic movements, 2003**

	Born alive	Deaths	Natural growth	Net migratory balance		Other reasons
				Foreign	Domestic	
Province of Milan	36,149	34,927	1,222	29,772	-12,084	35,427
Lombardy	87,559	89,822	-2,263	86,582	11,100	42,732
Italy	544,063	586,486	-42,405	407,521	32,678	169,381

Source: Istat.

### 1.2.3. Low birth rates and aging of population

The birth rate in the province of Milan has grown from 8.3 per thousand in 1995 to 9.6 per thousand in 2003 (Table 1.2.7), but still remains lower than the national mean, which is among the lowest in the world.

Even the death rate is growing over time: it was 9.3 per thousand in the province of Milan in 2003, compared with 8.9 per thousand in 1995. In the long run, this increase is mainly due to the progressive aging of the population. However, the increase of the death rate in 2003 is also due to the peculiar climatic condition of the summer of that year, in which persistent high temperatures caused a significant increase in the number of deaths (+14.1 per cent compared with 2002 in the whole summer and +35.8 per cent in August).

**Table 1.2.7 - Resident population changes by province, 1995-2003**

	Balance 01.01-31.12			Rates x 1.000 inhabitants (1)			
	Natural	Migration	Total	Births	Deaths	Immigration	Emigration
<b>Milan</b>							
- 2003	1,222	53,115	54,337	9.6	9.3	53.5	39.3
- 2002	1,831	14,274	16,105	9.6	9.1	35.1	31.3
- 2001	1,280	11,299	12,579	9.5	9.1	31.0	28.0
- 2000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- 1999	-1,496	6,149	4,653	8.9	9.3	32.1	30.5
- 1998	-2,553	18,263	15,710	8.9	9.5	34.0	29.1
- 1997	-62	9,085	9,023	8.9	8.9	30.4	28.0
- 1996	-2,575	10,264	7,689	8.7	9.4	30.0	27.2
- 1995	-2,410	-2,896	-5,306	8.3	8.9	29.0	29.8
<b>Lombardy</b>							
- 2003	-2,263	140,414	138,151	9.5	9.8	49.2	33.9
- 2002	1,151	73,892	75,043	9.6	9.4	37.4	29.2
- 2001	707	45,820	46,527	9.4	9.4	32.1	27.0

- 2000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- 1999	-5,229	41,754	36,525	9.1	9.6	33.5	28.9
- 1998	-7,673	47,635	39,962	9.0	9.8	32.8	27.6
- 1997	-4,738	35,019	30,281	9.0	9.6	30.6	26.7
- 1996	-8,267	42,067	33,800	8.8	9.7	30.1	25.4
- 1995	-9,445	23,864	14,419	8.5	9.5	29.3	26.6
<b>Italy</b>							
- 2003	-42,405	609,580	567,175	9.4	10.2	35.7	25.1
- 2002	-19,195	346,523	327,328	9.4	9.8	28.9	22.8
- 2001	-12,972	125,755	112,783	9.4	9.6	24.1	21.9
- 2000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- 1999	-33,947	101,142	67,195	9.3	9.9	25.5	23.7
- 1998	-44,068	93,329	49,261	9.2	10.0	24.6	23.0
- 1997	-24,631	127,008	102,377	9.4	9.8	24.2	21.9
- 1996	-21,016	148,997	127,981	9.4	9.7	23.8	21.2
- 1995	-29,139	93,557	64,418	9.2	9.7	23.4	21.8

Source: Istat.

The considerable extension of medium length of life and the decrease of fertility influence intensely the structure of population in Italy. A progressive aging of the population is a consequence, due to the increase of elderly people and a reduction of young people. The area of Milan is no exception to this trend. The scenarios based on demographic projections indicate that in the future the number of young people will further decrease, which means a lower number of entries in the labour market, while the number of elder people aiming to retire on a pension will grow. The structural indices in Table 1.2.8 show the considerable aging of the population resident in the municipality of Milan, which mean age (45.8 years) is more than two years higher than the provincial, regional and national average.

If we consider the province of Milan, the structure of population is very similar to the national one, but the reduction of the share of young people is even more accentuated (17 per cent compared with a national average of 19.1 per cent, Table 1.2.9). On the other side, the province of Milan has a higher number of people in working age, both male and female.

**Table 1.2.8 - Structural indices of population, 1.1.2003**

	Structure by age groups (%)			Structural indices		
	0-19 years	20-64 years	65 or more	Old age (a)	Dependency (b)	Mean age
Milan (Municipality)	14.5	62.1	23.5	210.8	52.9	45.8
Milan	17.0	64.2	18.8	145.8	46.4	43.1
Varese	18.0	63.4	18.6	138.9	47.1	42.7
Como	18.4	63.4	18.2	131.9	47.0	42.3
Lecco	18.8	63.4	17.8	126.3	47.0	42.0
Sondrio	19.2	62.7	18.1	127.1	47.7	41.8
Bergamo	19.8	64.1	16.2	108.8	44.9	40.9
Brescia	19.0	63.9	17.0	119.0	45.7	41.5
Pavia	15.3	61.9	22.8	198.9	52.0	45.2
Lodi	17.8	63.9	18.2	137.3	46.0	42.5
Cremona	16.8	62.6	20.7	165.4	49.6	43.9
Mantova	16.3	62.3	21.4	175.5	50.7	44.2
Lombardy	17.7	63.7	18.6	139.3	46.9	42.7
North	17.1	62.7	20.2	157.5	49.4	43.6
Centre	17.6	61.8	20.7	159.1	50.7	43.5
South and Islands	22.9	60.5	16.6	100.1	49.7	39.7
ITALY	19.3	61.7	19.0	133.8	49.8	42.2

(a) % (Population aged 0-14 + Population aged 65 or more) / Population aged 15-64

(b) % Population aged 65 or more / Population aged 0-14

Source: Istat.

**Table 1.2.9** - Resident population by age groups, 31.12.2002 (%)

Age groups	Province of Milan		Lombardy		Italy	
	%	Cumulated	%	Cumulated	%	Cumulated
0-4 years	4.5	4.5	4.6	4.6	4.6	4.6
5-9 years	4.2	8.7	4.4	9.0	4.6	9.2
10-14 years	4.2	12.9	4.4	13.4	5.0	14.2
15-19 years	4.1	17.0	4.4	17.8	5.1	19.3
20-24 years	5.0	22.0	5.2	23.0	5.7	25.0
25-29 years	7.1	29.1	7.2	30.2	7.2	32.2
30-34 years	8.5	37.5	8.4	38.5	7.9	40.1
35-39 years	8.9	46.4	8.8	47.3	8.2	48.3
40-44 years	7.6	54.0	7.6	54.9	7.4	55.7
45-49 years	6.8	60.8	6.8	61.7	6.7	62.4
50-54 years	6.9	67.6	6.9	68.5	6.6	69.0
55-59 years	6.7	74.3	6.4	74.9	6.1	75.1
60-64 years	6.8	81.1	6.5	81.4	6.0	81.1
65-69 years	5.9	87.0	5.6	87.0	5.4	86.5
70-74 years	5.0	92.0	4.9	91.9	4.9	91.4
75-79 years	3.8	95.8	3.8	95.7	4.0	95.4
80-84 years	2.3	98.1	2.3	98.0	2.5	97.9
85-89 years	1.2	99.3	1.3	99.3	1.3	99.2
90 years and over	0.7	100.0	0.7	100.0	0.8	100.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Istat.

#### 1.2.4. Immigrants

As previously pointed, in the early years of the 21st century the net balance of the population of the province of Milan has been positive, mainly as a consequence of migratory flows from abroad. The number of resident non-national citizens in the province of Milan more than doubled since 1995. At the end of 2003 they 201,150, compared with 89,176 at the end of 1995. They represent more than 10% of the total number of foreign citizens resident in Italy (Table 1.2.10).

**Table 1.2.10** - Residence permits granted to non-national citizens, 1995-2003

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Milan	89,176	126,647	131,887	136,098	169,679	172,045	168,639	169,982	201,150
Lombardy	146,492	205,952	220,307	235,154	301,291	312,254	331,369	378,507	476,690
Italy	729,159	986,020	1,022,896	1,090,820	1,340,655	1,379,749	1,448,392	1,549,373	1,990,159

Source: Istat.

Non-national citizens represent 5.3 per cent of the resident population in the province of Milan, a value similar to the regional one (5.2 per cent) but significantly higher than the national average, which is 3.8 per cent (Table 1.2.11).

**Table 1.2.11** - Non-national citizens resident as a per cent of total population, 31.12.2003

	2002
Milan	5.3
Lombardy	5.2
Italy	3.4

Source: Istat.

### 1.2.5. Commuting

The Table 1.2.12 illustrates the share of employed people that commutes from their residence to work or study in the Milan area. A study on this topic was carried on in 1995 by ATM, the local transport company of the municipality of Milan. The study estimated more than 8 million transfers per day in the metropolitan area of Milan, 38 per cent of which generated by residents in the municipality of Milan, 40 per cent by residents in the province and 22 per cent by residents outside the province. The mobility of population is rather high: nearly 70 per cent of people commute every day, with an average of 4 transfers per day. The highest values were registered in the hinterland of Milan, where the population is relatively younger (the mean age is 38 years against 43 in Milan).

**Table 1.2.12** - Commuting in the Milan metropolitan area

Type of commuting	Residents			Total	%
	Municipality of Milan	Province of Milan	Other provinces		
Milan-Milan	2,481	82	79	2,642	33 %
Milan-Hinterland or viceversa	354	891	30	1,274	16 %
Milan-outside province or viceversa	181	13	948	1,143	14 %
Hinterland-Hinterland	15	1,817	24	1,856	23 %
Hinterland-outside province or viceversa	11	386	594	991	12 %
Hinterland-Hinterland through Milan	16	26	144	186	2 %
Total (thousands)	3,058	3,215	1,819	8,092	100 %
%	38 %	40 %	22 %	100 %	

Source: ATM, 1995 (analysis on a sample of 257,000 people aged 11+).

### 1.3. INDICATORS OF ECONOMIC PERFORMANCE

In this chapter all economic data, including regional GDP, are calculated in current prices.

#### 1.3.1. Value added

In 2003 the economic system of the province of Milan originated a value added of 122.1 billion EUR, which represent almost half of the regional total (49 per cent) and 10 per cent of the national total (Table 1.3.1). In comparison with the other Italian provinces, Milan has the highest value added, followed by Rome (100.2 billion EUR in 2003, 8.2 per cent of the national total), Turin (54 billion EUR) and Neaples (41.4 billion EUR); in fifth position another province of Lombardy, Brescia (28 billion EUR).

Graph 1.3.1 illustrates the development of provincial, regional and national GDP per capita 1995-2001, measured in euro in current prices. GDP has increased in all compared areas over time. From 1995 to 2001, the GDP per capita increased by 24.1 per cent in Italy, which means a 3.7 per cent composed average growth rate. In the same period, the province of Milan grew by 25.5 per cent (CAGR: +3.9 per cent), while the growth of Lombardy was than the national average (+23,8 per cent; CAGR +3.6 per cent). In 2001, per capita GDP in the province of Milan is 123.4 per cent of the national mean, while in Lombardy is 113.1 per cent of the national mean.

**Table 1.3.1** - Value added by sector, 2003 and % growth 2003/2002

	Value added, 2003 (EUR millions at current prices)				% growth 2003/2002			
	Agriculture	Industry	Services	Total	Agriculture	Industry	Services	Total
Province of Milan	334.0	35,941.3	85,848.3	122,123.6	-3.1%	0.5%	1.7%	1.3%
Lombardy	3,695.0	82,057.0	163,567.0	249,319.0	-1.9%	1.3%	3.4%	2.6%
- % Milan / Lombardy	8.4%	43.8%	52.5%	49.0%				
Italy	30,883.0	323,665.8	862,643.7	1,217,192.5	1.2%	1.7%	4.1%	3.4%
- % Milan / Italy	1.1%	11.1%	10.0%	10.0%				

Source: elaborations on data Unioncamere-Tagliacarne.

The tertiary sector accounts for 70.3 per cent of the total value added in the province of Milan (Table 1.3.2), with 85.4 billion EUR (10 per cent of the national total in services); 29.4 per cent of value added is provided by industry, with 35.9 billion EUR (11.1 per cent of the national total). A modest contribution comes from agriculture (334 million EUR value added, which represented 0.3 per cent of the value added of the province and 1.1 per cent of the national total in agriculture).

The contribution of industry to value added was much higher in other provinces of Lombardy (Lecco 41.7 per cent, Bergamo 40.8 per cent, Como 37.2 per cent), which maintain a strong tradition in manufacturing industries.

**Table 1.3.2** - Composition and growth of value added by sector, 2003 (%)

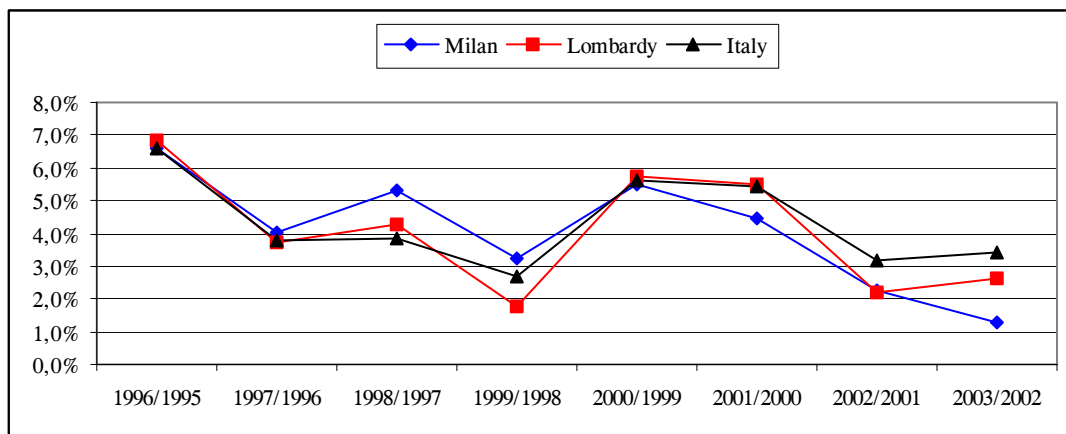
	Breakdown of value added, 2003					% growth 2003/2002			
	Agriculture	Industry	Services	Total	EUR millions	Agriculture	Industry	Services	Total
Milan	0.3%	29.4%	70.3%	100%	122,123.6	-3.1%	0.5%	1.7%	1.3%
Varese	0.3%	36.6%	63.1%	100%	19,133.4	0.5%	-0.7%	4.3%	2.4%
Como	0.7%	37.4%	61.8%	100%	12,012.0	-4.1%	3.5%	4.0%	3.8%
Sondrio	2.3%	23.2%	74.5%	100%	3,856.0	-2.2%	-0.6%	8.2%	5.8%
Bergamo	1.3%	40.8%	57.9%	100%	24,036.2	-1.7%	0.0%	7.1%	4.0%
Brescia	3.1%	36.5%	60.4%	100%	27,953.7	1.2%	6.0%	5.4%	5.5%
Pavia	3.7%	27.3%	69.0%	100%	10,421.1	-10.2%	0.6%	-0.6%	-0.7%

Cremona	7.5%	32.2%	60.3%	100%	7,873.9	-2.6%	-0.8%	7.9%	4.1%
Mantova	6.8%	36.9%	56.3%	100%	10,404.7	-2.5%	6.3%	9.4%	7.4%
Lecco	0.4%	41.7%	57.8%	100%	7,048.0	0.0%	-2.5%	10.5%	4.6%
Lodi	5.2%	34.6%	60.1%	100%	4,456.3	7.8%	5.0%	-0.9%	1.5%
<b>Lombardy</b>	<b>1.5%</b>	<b>32.9%</b>	<b>65.6%</b>	<b>100%</b>	<b>249,319.0</b>	<b>-1.9%</b>	<b>1.3%</b>	<b>3.4%</b>	<b>2.6%</b>
North-West	1.6%	31.2%	67.2%	100%	392,048.0	-0.6%	1.2%	3.7%	2.8%
North-East	2.8%	31.4%	65.8%	100%	270,738.0	-4.4%	2.9%	3.7%	3.2%
<b>ITALY</b>	<b>2.5%</b>	<b>26.6%</b>	<b>70.9%</b>	<b>100%</b>	<b>1,217,192.5</b>	<b>1.2%</b>	<b>1.7%</b>	<b>4.1%</b>	<b>3.4%</b>

Source: elaborations on data Unioncamere-Tagliacarne.

Since the half of the nineties the value added produced by the economic system in the province of Milan has been always increasing, though encountering up and down phases. But while in the second half of the nineties the growth of value added was always higher than both regional and national average, in most recent years the trend has inverted (Graph 1.3.1). In more recent years the growth rate of value added in the province of Milan has been sharply decreasing, from +5.5 per cent in the year 2000 to only +1.3 per cent in the year 2003, the lowest value since the early nineties. In 2003 the growth rate of value added was remarkably lower for Milan than both the regional and the national average (+2.6 per cent and +3.4 per cent, respectively).

Graph 1.3.1 – Value added: growth rates, 1995-2003



Source: elaborations on data Unioncamere-Tagliacarne.

The annual growth rates of value added by industries (Table 1.3.3) show for the province of Milan a relatively better performance of tertiary sectors (+1.7 per cent), which growth remains however lower than regional and national averages. The growth of industrial sectors was very modest in 2003 (+0.5 per cent), specially if compared with the performance of previous years (+1.7 per cent in 2002).

Table 1.3.3 - Growth rates of value added in the province of Milan by industry, 1995-2003

	1996/1995	1997/1996	1998/1997	1999/1998	2000/1999	2001/2000	2001/2002	2003/2002
Agriculture	9.0	3.7	-13.7	3.9	3.2	4.6	4.6	-3.1
Industry	2.9	1.4	6.6	0.1	2.2	1.7	1.7	0.5
Services	8.6	5.2	4.8	4.8	7.1	5.7	2.5	1.7
Total	6.6	4.0	5.3	3.2	5.5	4.4	2.2	1.3

Source: elaborations on data Unioncamere-Tagliacarne.

Since 1995 the growth of provincial value added in current values was 39 per cent. The tertiary sectors (+50.9 per cent) were mainly responsible of that growth, while the contribution of industrial sectors was much lower (+17.5 per cent). As a result, the share of services on total value added in the province of

Milan rose from 64.9 per cent in 1995 to 70.3 per cent in 2003, while the share of industry reduced in the same period from 34.8 per cent to 29.4 per cent; agriculture remained stable at 0.3 per cent (Table 1.3.4).

**Table 1.3.4** - Sectoral composition of the value added in the province of Milan, 1995-2003

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Agriculture	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Industry	34.8	33.6	32.8	33.2	32.2	31.1	30.3	30.2	29.4
Services	64.9	66.1	66.9	66.6	67.6	68.6	69.4	69.5	70.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	69.5	70.3

Source: elaborations on data Unioncamere-Tagliacarne.

Data presented above confirm the impressive process of tertiarization which characterized the economic system of the province of Milan in the last decades. This notwithstanding, the province maintains a solid industrial apparatus which produces nearly one third of local wealth.

### 1.3.2. Per capita income

Notwithstanding the low growth rates of more recent years, the comparison with the other Italian provinces confirm the leadership of Milan as the wealthiest province in Italy, with a per capita income of 30,468 EUR, against an average value for Lombardy of 27,371 EUR and a national mean of 20,232 EUR. It is worth observing that in the ranking of Italian provinces by pro capita income, the first 10 provinces are all localized in Northern (8 provinces) and Central Regions (2 provinces: Rome and Florence). On the contrary, the last ten positions are all occupied by provinces localized in the Mezzogiorno (Table 1.3.5).

**Table 1.3.5** - Ranking of Italian provinces by per capita income, 2003

Rank	Province	Per capita income (EUR)	Rank	Province	Per capita income (EUR)
1	Milan	30,468	94	Napoli	12,994
2	Bolzano	29,016	95	Vibo Valentia	12,922
3	Bologna	27,487	96	Palermo	12,881
4	Firenze	26,898	97	Caltanissetta	12,818
5	Modena	26,777	98	Agrigento	12,606
6	Parma	26,181	99	Foggia	12,240
7	Mantova	25,952	100	Lecce	12,237
8	Roma	25,338	101	Cosenza	12,063
9	Aosta	24,896	102	Enna	11,935
10	Ravenna	24,228	103	Crotone	11,518

Source: elaborations by Chamber of Commerce of Milan on data Unioncamere-Tagliacarne.

### 1.3.3. Per capita disposable income

An important indicator of the wealth of an economic system is per capita disposable income, which measures the real purchasing power of families. The per capita disposable income considers not only the yield from dependent employment but the whole family income, including income from self-employment, unearned income and payments from the social security.

Notwithstanding the not favourable economic situation, last available data from Istat – which refer to 2002 – show a favourable trend, with the growth of both total disposable income (+3.4 per cent compared with 2001) and per capita disposable income, which results by the division of the total disposable income by the resident population (+3.9 per cent, Table 1.3.6). In any case, these increased were lower than those registered the previous years (+5.2 per cent and +5.0 per cent, respectively).



The increase of the purchasing power of families in Lombardy is higher than the national average and in 2002 it grew by +4.4 per cent (+4 per cent in 2001). The performance of the province of Milan was very similar in 2002 (+4.3 per cent) and even though other provinces in Lombardy show a higher growth rate, Milan is still first in region with EUR 18,555 per capita disposal income (23 per cent more than the national average).

**Table 1.3.6 - Per capita disposable income of families, 2001-2002 (EUR)**

	2001	2002	Var. % 2002/2001
<b>Lombardy</b>	<b>17,778.8</b>	<b>18,555.4</b>	<b>4.4</b>
Varese	17,002.6	17,886.9	5.2
Como	16,475.5	17,189.9	4.3
Sondrio	17,069.2	17,879.0	4.7
<b>Milan</b>	<b>19,091.0</b>	<b>19,902.8</b>	<b>4.3</b>
Bergamo	16,541.1	17,302.5	4.6
Brescia	16,989.3	17,422.4	2.5
Pavia	16,801.7	17,783.9	5.8
Cremona	17,170.5	18,155.8	5.7
Mantova	17,577.2	18,409.3	4.7
Lecco	16,776.9	17,746.3	5.8
Lodi	16,346.2	17,160.0	5.0
North-West	17,305.3	18,033.9	4.2
North-East	16,812.3	17,320.0	3.0
Centre	15,615.9	16,326.0	4.5
South and Islands	10,574.9	10,958.7	3.6
<b>Italia</b>	<b>14,465.2</b>	<b>15,031.7</b>	<b>3.9</b>

Source: elaborations by Chamber of Commerce of Milan on data Unioncamere-Tagliacarne.

#### 1.3.4. Labour participation rates and unemployment

Table 1.3.7 illustrates the activity rates of economically active population in per cent for the period 1993-2003. The economically active population is defined as the number of unemployed plus the number of employed in the range 15-64 years. The activity rate in Italy is low, if compared with other advanced countries, even though it has growing in the last decade (61.7 per cent in 2003, compared with 58.2 per cent in 1993). One of the causes is modest level of female activity rate (48.6 per cent in 2003), which is much lower than male activity rate (74.8 per cent).

**Table 1.3.7 - Activity rate of population aged 15-64 years, 1993-2003 (%)**

	Province of Milan			Lombardy			Italy		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
<b>1993</b>	75.0	49.0	62.1	75.6	47.8	61.8	74.1	42.2	58.2
<b>1994</b>	73.3	50.1	61.7	74.8	48.4	61.7	73.4	42.2	57.8
<b>1995</b>	73.5	50.7	62.1	74.7	48.7	61.8	72.9	42.6	57.7
<b>1996</b>	74.2	51.7	63.0	74.6	49.4	62.1	72.9	43.3	58.1
<b>1997</b>	73.6	51.3	62.4	74.3	49.6	62.1	72.8	43.8	58.3
<b>1998</b>	73.9	53.1	63.5	74.6	51.1	63.0	73.3	44.9	59.1
<b>1999</b>	74.1	53.9	64.0	75.1	51.8	63.6	73.5	45.8	59.7
<b>2000</b>	74.8	55.1	65.0	75.3	52.4	64.0	73.9	46.6	60.3
<b>2001</b>	75.8	55.3	65.6	75.9	53.7	64.9	74.0	47.5	60.8
<b>2002</b>	76.3	56.9	66.7	76.5	55.1	65.9	74.3	48.2	61.3
<b>2003</b>	76.7	57.3	67.1	77.2	55.5	66.5	74.8	48.6	61.7

Source: Istat.

The activity rate of population aged 15-64 is nearly the same for the province of Milan and for Lombardy; both are much higher than the national average. The difference between the activity rates of the province of Milan and the national average grew between 1993 (3.9 per cent units) and 2003 (5.4 per cent units), mainly because the growth of the female activity rate (8.3 per cent units for the province of Milan against a national average of 6.4 per cent units).

**Table 1.3.8 - Unemployment rates, 1993-2003 (%)**

	Province of Milan			Lombardy			Italy		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1993	5.2	9.4	6.9	4.0	8.9	5.9	7.5	14.6	10.1
1994	5.8	10.7	7.8	4.5	9.5	6.4	8.6	15.4	11.1
1995	5.8	11.3	8.1	4.1	9.2	6.1	9.0	16.2	11.6
1996	5.4	11.2	7.8	4.0	9.1	6.0	9.0	16.1	11.6
1997	4.9	10.8	7.3	3.8	8.9	5.8	9.0	16.2	11.7
1998	4.7	9.2	6.6	3.3	8.9	5.5	9.1	16.3	11.8
1999	4.1	7.5	5.6	3.1	7.4	4.8	8.8	15.7	11.4
2000	3.6	7.4	5.2	2.8	6.7	4.4	8.1	14.5	10.6
2001	3.6	6.1	4.6	2.5	5.5	3.7	7.3	13.0	9.5
2002	3.6	6.0	4.6	2.5	5.6	3.8	7.0	12.2	9.0
2003	3.7	5.7	4.5	2.5	5.2	3.6	6.8	11.6	8.7

Source: Istat.

Unemployment rates decreased remarkably in Italy in the last years, but they still are quite high. At the end of 2003 the overall unemployment rate was 8.7 per cent (Table 1.3.8), but it was 12.0 per cent in 1998. The difference between males (6.8 per cent) and females (11.6 per cent) is still significant, even though gap is decreasing.

The national unemployment rate is the average between regions which present very different economic situations. In northern regions unemployment rates are very low, while in some regions in the so called “Mezzogiorno” they overcome the threshold of 20 per cent. Lombardy has one of the lowest unemployment rates in Italy and in Europe: 3.6 per cent in 2003 (2.5 per cent and 5.2 per cent for males and females respectively (Table 1.3.9). The performance of the province of Milan is not so brilliant: 4.6 per cent in 2003, in comparison with 8.1% in 1995. The difference between males and females is smaller than for Lombardy: 3.8 per cent compared with 5.7 per cent.

Unfortunately, in Italy unemployment is particularly high among younger people. The overall national unemployment rate of population aged 15-24 years is 27.1 per cent in Italy, 10.9 per cent in Lombardy and 14.9 per cent in Italy. Also in this case, the difference between males (13.9 per cent) and females (16.2 per cent) is lower for Milan than for Lombardy and for Italy.

**Table 1.3.9 - Unemployment rates of population aged 15-64 years, 1993-2003 (%)**

	Province of Milan			Lombardy			Italy		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1993	5.3	9.3	6.9	4.0	8.8	5.9	7.6	14.6	10.2
1994	5.9	10.7	7.8	4.5	9.5	6.5	8.7	15.5	11.2
1995	5.9	11.3	8.1	4.1	9.2	6.1	9.1	16.3	11.8
1996	5.5	11.2	7.8	4.0	9.1	6.0	9.1	16.2	11.8
1997	5.0	10.8	7.4	3.8	8.9	5.8	9.2	16.3	11.9
1998	4.7	9.3	6.6	3.4	8.9	5.6	9.3	16.4	12.0
1999	4.2	7.6	5.6	3.1	7.4	4.9	8.9	15.8	11.6
2000	3.7	7.4	5.3	2.8	6.7	4.4	8.3	14.6	10.7
2001	3.6	6.1	4.7	2.5	5.5	3.7	7.5	13.1	9.6

2002	3.6	6.0	4.6	2.6	5.7	3.8	7.1	12.3	9.1
2003	3.8	5.7	4.6	2.5	5.2	3.6	6.9	11.7	8.8

Source: Istat.

**Table 1.3.10 - Unemployment rates of population aged 15-24 years, 1993-2003 (%)**

	Province of Milan			Lombardy			Italy		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1993	20.8	23.9	22.2	15.0	21.2	17.9	26.6	35.3	30.4
1994	22.5	29.9	26.0	16.2	23.6	19.7	29.1	36.5	32.4
1995	24.8	30.6	27.5	16.0	22.0	18.8	29.9	38.7	33.8
1996	22.0	30.9	26.1	14.5	22.7	18.3	29.8	39.5	34.1
1997	22.1	30.7	26.0	14.1	22.4	17.9	29.6	39.6	34.0
1998	17.4	26.4	21.5	11.1	22.2	16.3	29.8	39.0	33.8
1999	17.1	20.4	18.5	11.7	17.7	14.5	29.2	37.4	32.9
2000	14.3	19.6	16.9	10.0	16.6	13.1	27.6	35.4	31.1
2001	11.9	11.9	11.9	8.8	11.4	10.0	25.0	32.2	28.2
2002	13.4	15.9	14.5	9.4	13.7	11.4	24.0	31.4	27.2
2003	13.9	16.2	14.9	9.4	12.8	10.9	24.2	30.9	27.1

Source: Istat.

## **1.4. STRUCTURE OF THE ECONOMIC SYSTEM**

The province of Milan plays a relevant role in the national economy, with more than 330,000 enterprise acting in the various line of businesses, which form a highly diversified industrial system. The Milan area is very similar to the most developed areas in Europe: it has the same complex variety of business activities, and the same level of wealth. On the one hand, a competitive manufacturing industry feeds the development of high added value tertiary activities. On the other hand, the presence of highly qualified service activities represents a strategic advantage that guarantees Milan companies to face today's ambitious and difficult competitive processes.

In the secondary sector, all manufacturing industries are represented in the province of Milan, even though a strong specialization in high tech industries emerge comparing the industrial structure of Milan with that of Italy. Several multinational companies have set up operations either in metropolitan Milan or in the area around.

In the service sector, the province of Milan has a notable record in the national context: commerce, transport, business and financial services form the highest absolute revenue levels in Italy. In terms of highly qualified services, we can outline consulting in technological and managerial fields, as well as a high concentration of activities in the fields of design, management consulting, marketing, advertising, public relations and media. The head offices of some of the leading national and foreign banks, insurance companies, and firms are based in Milan.

We should also mention the numerous specialized national and international trade fairs in the city. The Milan trade Fair centre has 375 sq. Km. of exhibition floorspace, 1,695 sq Km of which are sold every year. The centre hosts more than 70 specialized shows every year, with 30,320 stands and 4,500,000 visitors.

The Milan area economy has gone over the local dimension and created global ties, more than any other in Italy. The productive structure of the province of Milan has, for some time, been focused on foreign trade, both in terms of exports and more complex forms of productive and commercial internationalisation. The province of Milan covers 26% of import and 14% of Italian exports (€ 66,275 million for import and € 35,442 million for export in 2003). 80% of imported goods come from European countries (68% from Germany); 63% of exported goods are mainly sent to European countries (48% to EU countries).

### **1.4.1. The sectoral breakdown**

Table 1.4.1 show the breakdown of active enterprises in the province of Milan at the end of 2004 by field of economic activity.

The core of manufacturing activities (Table 1.4.2) is formed by the mechanical, metallurgical and electromechanical industries, which produce components, machine tools, textile machinery, domestic appliances, and precision instruments. The contribution from the chemical industry is also significant, including either both basic chemical activities, specialties, pharmaceuticals and biotech, plastic and rubber products. The textile/clothing and the leather sectors, thanks to the integration with the fashion/design industry, represent a production chain which has made Milan industry famous throughout the world and has enabled Milan to contribute considerably to the foreign trade balance. Also the furniture industry, concentrated in the northern area of the province (the "Brianza"), is one of the traditional sectors of the Milan economy.

Since the beginning of the seventies, the heavy industrial production gave way to the growth of high tech industries and of advanced service and tertiary sectors, which developed in close connection with the manufacturing firms operating in the area. In the nineties the technological evolution and the globalization of the economy have definitely turned the area's traditional production model, formerly based on the heavy mechanical industry and the chemical sector, into a network of small sized enterprises, accompanied by few large enterprises.

Most of the Milan businesses and their staff operate today in the service sector (Table 1.4.3). The expansion of service activities, particularly in the fields of banking, insurance, business and financial services, has reduced the relative incidence of manufacturing industries in the economic structure of the province and today they contribute to over 70 per cent of value added.

Despite its few workers, the agricultural sector still plays an important role as well. Firms are mainly located in the southern area of the province and show high levels of mechanization and productivity.

**Table 1.4.1** - Active enterprises in the province of Milan by industry, 2004

	Active firms, 2004		% growth rates		
	No.	%	02/01	03/02	04/03
Agriculture and fishing	5,672	1.7	0.6	-0.1	1.6
Mining	121	0.0	-0.8	-2.3	-3.2
Manufacturing	50,173	15.1	-1.2	-1.1	-1.1
Energy, gas and water supply	269	0.1	2.4	5.1	0.4
Construction	43,500	13.1	3.6	3.4	4.6
Wholesale and retail trade	88,875	26.7	0.2	0.1	0.8
Services	138,518	41.6	2.6	1.9	3.8
Not classified	5,616	1.7	8.0	6.2	-13.7
<b>Total</b>	<b>332,744</b>	<b>100</b>	<b>1.5</b>	<b>1.2</b>	<b>1.9</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

**Table 1.4.2** - Active enterprises in manufacturing industries in the province of Milan, 2004

	No. of active enterprises	% growth rates		
		2002/2001	2003/2002	2004/2003
Food products and beverages	3,277	4.4	5.8	6.9
Tobacco	1	0.0	0.0	0.0
Textiles and textile products	1,801	-2.3	-0.8	-0.1
Clothing	3,323	-3.5	-2.4	-3.6
Leather and leather products	1,189	-2.7	-4.1	-5.1
Wood and wood products (excluded furniture)	2,230	-4.5	-3.0	-5.7
Pulp, paper and paper products	661	-1.3	-0.3	-3.8
Publishing and print	4,814	-0.2	-1.0	-1.2
Coke, refined petroleum products and nuclear fuel	69	1.4	1.4	-2.8
Chemical products, pharmaceuticals and man-made fibres	1,562	-1.2	-2.5	-1.4
Rubber and plastic products	1,716	-1.3	-1.4	-1.7
Non metallic mineral products	1,153	-2.1	-1.3	0.8
Basic metals	617	-3.6	-3.4	-1.1
Fabricated metal products	8,916	-0.5	-0.6	-1.3
Machinery and equipment	5,176	-0.2	-2.2	0.7
Office, accounting and computing machinery	467	2.4	5.2	4.9
Electrical machinery and apparatus	2,779	-2.5	-1.7	-3.3
Radio, television and communication equipment and apparatus	1,119	-4.4	-3.4	-8.2
Medical, precision and optical instruments, watches and clocks	2,933	-1.1	-1.0	-0.9
Motor vehicles, trailers and semi/trailers	259	0.0	1.2	-0.4
Other transport equipment	298	2.9	-2.1	5.7

Furniture and other manufacturing industries	5,635	-1.7	-1.8	-1.1
Recycling	178	2.6	3.8	7.2
<b>Total manufacturing industry</b>	<b>50,173</b>	<b>-1.2</b>	<b>-1.1</b>	<b>-1.1</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

**Table 1.4.3 - Active enterprises in tertiary sectors in the province of Milan, 2004**

	No. of active enterprises	% growth rates		
		2002/2001	2003/2002	2004/2003
Wholesale and retail trade	88,875	0.2	0.1	0.8
Trade, maintenance and repair of motor vehicles and motorcycles	8,904	-0.9	0.1	-0.5
Wholesale trade (excluded motor vehicles)	41,984	0.2	0.3	1.3
Retail trade (excluded motor vehicles)	37,987	0.5	-0.2	0.6
<b>Hotels, bar and restaurants</b>	<b>13,526</b>	<b>2.0</b>	<b>1.3</b>	<b>2.7</b>
<b>Transports, storage and communication</b>	<b>18,590</b>	<b>2.3</b>	<b>1.2</b>	<b>5.4</b>
Land transport, transport via pipelines	13,979	0.3	0.3	4.2
Water transport	43	10.0	-2.3	0.0
Air transport	42	2.4	0.0	-2.3
Auxiliary transport activities, travel agencies	3,395	8.2	2.7	2.0
Post and telecommunications	1,131	15.7	10.9	40.8
<b>Financial intermediation</b>	<b>9,160</b>	<b>0.8</b>	<b>-0.2</b>	<b>-0.7</b>
Financial intermediation, except insurance and pension funding	2,479	-1.4	-1.9	-14.0
Insurance and pension funding	346	-8.3	-8.1	-7.7
Activities auxiliary to financial intermediation	6,335	2.7	1.2	6.2
<b>Real estate, renting and business activities</b>	<b>78,396</b>	<b>3.1</b>	<b>2.5</b>	<b>4.1</b>
Real estate activities	34,610	2.6	2.8	5.2
Renting of machinery and equipment	1,093	5.5	3.6	4.4
Software and related activities	10,102	2.4	1.2	1.7
Research and development	385	2.7	-1.8	3.5
Other business activities	32,206	3.8	2.5	3.7
<b>Education</b>	<b>1,308</b>	<b>8.4</b>	<b>7.6</b>	<b>2.9</b>
<b>Health and social work</b>	<b>1,790</b>	<b>6.7</b>	<b>3.7</b>	<b>7.0</b>
<b>Other community, social and personal service activities</b>	<b>15,744</b>	<b>1.0</b>	<b>1.2</b>	<b>3.8</b>
Sewage and refuse disposal, sanitation and similar activities	234	5.9	3.3	5.9
Recreational, cultural and sporting activities	4,337	4.0	3.1	7.0
Other service activities	11,173	-0.2	0.5	2.6
<b>Activity of private households as employers of domestic staff</b>	<b>4</b>	<b>-11.1</b>	<b>-37.5</b>	<b>-20.0</b>
<b>Total tertiary industries</b>	<b>227,393</b>	<b>1.6</b>	<b>1.2</b>	<b>2.6</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

In general, the role of the province of Milan in the national economy is particularly important in high-tech manufacturing industries and in the advanced tertiary sectors, such as financial services, R&D, consultancy, software and computer services, etc..

Table 1.4.4 illustrates the sectoral structure of employment in the province of Milan, in Lombardy and in Italy. The province of Milano accounts for 11.4 per cent on the total number of employees in Italy in manufacturing industries, with peaks of 27.9 per cent in chemical industries and 22.8 per cent in the electric and electronic products industry. In the wholesale trade sector the share of the province of Milan on the total number of employees in Italy reaches 20.3 per cent, while among the other tertiary sector the weight of Milan is 21.5 per cent in financial intermediation (banking, insurance and financial services) and 17 per cent in business services.

**Table 1.4.4** - Employees by handicraft and non-handicraft enterprises by economic activity, 2002

Sections and sub-sections of economic activity	Milan		Lombardy		Italy	
	No.	%	No.	%	No.	%
Agriculture, hunting and forestry	1,475	1.4	6,771	6.3	108,145	100
Fishing and related services	5	0.4	14	1.1	1,275	100
Mining	1,418	3.2	5,166	11.6	44,492	100
Total manufacturing	573,805	11.4	1,355,292	26.9	5,046,169	100
Food products	47,047	10.4	97,598	21.5	454,472	100
Textiles	34,018	6.3	149,622	27.8	537,514	100
Leather and leather products	6,019	3.3	15,577	8.5	182,653	100
Wood and related products	6,681	3.9	28,523	16.7	170,686	100
Pulp, paper and printing	55,427	18.1	88,824	29.0	306,383	100
Petroleum products	2,948	6.8	5,441	12.6	43,222	100
Chemical products, pharmaceuticals and man-made fibres	83,977	27.9	125,610	41.8	300,746	100
Rubber and plastic products	27,083	12.6	73,595	34.3	214,551	100
Other non-metallic mineral products	10,821	4.2	38,256	14.9	256,001	100
Basic metals	72,352	8.8	260,654	31.8	818,830	100
Machinery and equipment	72,924	11.0	191,141	28.9	661,538	100
Electrical and electronic products	118,692	22.8	179,765	34.5	520,395	100
Transport equipment	9,910	3.5	41,134	14.7	279,349	100
Other manufacturing industries	25,906	8.6	59,552	19.9	299,829	100
Electricity, gas and water supply	10,217	4.3	21,157	8.9	238,900	100
Construction	106,754	6.9	291,958	18.9	1,543,615	100
Wholesale and retail trade, repair personal and household goods	353,388	14.6	595,991	24.7	2,417,800	100
Sale and repair motor vehicles	31,170	7.5	74,905	17.9	417,604	100
Wholesale trade	185,849	20.3	279,913	30.6	913,415	100
Retail trade, repair personal and household goods	136,369	12.5	241,173	22.2	1,086,781	100
Hotels and restaurants	50,664	7.7	102,888	15.5	662,182	100
Transport, storage and communication	94,818	7.5	157,263	12.5	1,258,533	100
Financial intermediation	177,765	21.6	231,167	28.1	822,097	100
Real estate, renting, R&D, other business services	316,529	17.0	446,838	24.0	1,865,265	100
Public Administration	36,950	3.6	84,533	8.3	1,012,970	100
Education	17,767	11.5	32,096	20.7	154,883	100
Health and social work	72,124	9.0	166,185	20.8	797,332	100
Other community, social and personal service activities	78,449	9.4	145,520	17.5	832,099	100
Unspecified activities	806	8.3	1,697	17.5	9,722	100
<b>Total</b>	<b>1,892,934</b>	<b>11.3</b>	<b>3,644,536</b>	<b>21.7</b>	<b>16,815,479</b>	<b>100</b>

Source: Inail (National Institute for Insurance against Occupational Accidents).

### 1.4.2. Short-term trends

In 2004 the number of active enterprises increased by 6.307 units compared to 2003 (Table 1.4.5). In absolute terms, the growth was the highest since 2001. In relative terms, growth rate in 2004 was next to 2 per cent, compared with +1.2 per cent in 2003.

The performance of the province of Milan was similar to the regional one, but 1.5 per cent units higher than national average. This positive trend seem to be confirmed by the first available 2005 data: +1.6 per cent in the 1<sup>st</sup> quarter (compared with 1<sup>st</sup> quarter 2004), even though the comparison to 4<sup>th</sup> quarter 2004 is not favourable (-0.4 per cent).

Out of 13,970 new enterprises enrolled in Lombardy in 2004, 45.1 per cent concentrate in the province of Milan (compared to 39.6% in 2004). In 2004, Lodi and Brescia have been, among Lombardy provinces,

more dynamic than Milan (+2.6 per cent and +2.4 per cent, respectively, Table 1.4.6). Among the other large Italian towns only Naples registered a higher growth rate.

**Table 1.4.5 - Active enterprises by geographic area, 2001-2004**

	No. of active enterprises				% growth	% growth	% growth	% growth
	2001	2002	2003	2004	2001/00	2002/01	2003/02	2004/03
<b>Milan</b>	<b>317,959</b>	<b>322,709</b>	<b>326,437</b>	<b>332,744</b>	<b>2.2</b>	<b>1.5</b>	<b>1.2</b>	<b>1.9</b>
Lombardy	751,638	762,401	771,801	785,771	1.8	1.4	1.2	1.8
North-West	1,299,809	1,313,575	1,324,763	1,343,491	1.5	1.1	0.9	1.4
North-East	1,058,445	1,063,146	1,066,391	1,077,294	0.4	0.4	0.3	1.0
<b>Italy</b>	<b>4,897,933</b>	<b>4,952,053</b>	<b>4,995,738</b>	<b>5,061,859</b>	<b>1.2</b>	<b>1.1</b>	<b>0.9</b>	<b>1.3</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

**Table 1.4.6 - Active enterprises by province, 2001-2004**

	No. of active enterprises				% growth	% growth	% growth	% growth
	2001	2002	2003	2004	2001/2000	2002/2001	2003/2002	2004/2003
Bergamo	77,384	78,729	79,918	81,439	2.1	1.7	1.5	1.9
Brescia	97,717	99,688	101,739	104,149	2.4	2.0	2.1	2.4
Como	40,875	41,417	42,009	42,781	1.5	1.3	1.4	1.8
Cremona	26,625	26,913	27,070	27,569	1.3	1.1	0.6	1.8
Lecco	22,167	22,482	22,809	23,223	1.7	1.4	1.5	1.8
Lodi	14,123	14,402	14,610	14,989	1.5	2.0	1.4	2.6
Mantova	37,755	38,325	38,568	39,053	0.4	1.5	0.6	1.3
Pavia	42,307	42,453	42,473	42,870	0.5	0.3	0.0	0.9
Sondrio	15,587	15,572	15,590	15,655	0.5	-0.1	0.1	0.4
Varese	59,139	59,711	60,578	61,299	1.3	1.0	1.5	1.2
<b>Milan</b>	<b>317,959</b>	<b>322,709</b>	<b>326,437</b>	<b>332,744</b>	<b>2.2</b>	<b>1.5</b>	<b>1.2</b>	<b>1.9</b>
Turin	186,340	188,608	189,888	192,734	1.7	1.2	0.7	1.5
Genoa	66,920	67,252	67,725	68,658	1.4	0.5	0.7	1.4
Venice	70,437	70,286	70,088	70,790	-0.2	-0.2	-0.3	1.0
Bologna	85,684	86,136	86,317	87,256	0.6	0.5	0.2	1.1
Florence	86,722	87,806	88,523	89,659	1.2	1.2	0.8	1.3
Rome	211,972	215,210	221,130	225,394	1.5	1.5	2.8	1.9
Neaples	201,120	207,025	211,453	216,130	2.3	2.9	2.1	2.2

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

The analysis of the components of dynamics (flows of enrolled and ceased enterprises and related birth and growth rates) shows a turnabout in 2004 (Table 1.4.7). The number of new enrolments grew 10.6 per cent in comparison to 2003, while the previous year the growth rate had been negative (-5.1 per cent). The birth rate was 7.2 per cent in 2004 (6.6 per cent in 2003), a performance similar to the regional and the national ones (Table 1.4.8). Unfortunately, the number of ceased enterprises grew too (+6.7 per cent); the death rate was 5.3 per cent in 2004, 0.3 per cent units more than in 2003 but still below the regional and national data.

The enhancement of birth rates indicates a renewed vitality of the local economic system, which is confirmed also by the growth rate of the number of active enterprises (+1.9 per cent), which improves the performances registered in 2003 and in 2002.



**Table 1.4.7** - Enterprises enrolled and closed down in the province of Milan by industry, 2001-2004

	No. of enterprises			Birth rate (%)				Death rate (%)				Growth rate (%)			
	Enrolled	Ceased	Balance	2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
Agriculture and fishing	263	230	33	4.7	4.9	3.9	4.5	5.1	4.8	4.9	3.9	-0.3	0.1	-1.0	0.6
Mining	2	11	-9	1.5	1.0	0.5	1.0	2.6	2.1	3.1	5.7	-1.0	-1.0	-2.6	-4.7
Manufacturing	1,723	2,856	-1,133	3.2	2.8	2.7	2.7	4.2	4.9	4.2	4.5	-1.0	-2.2	-1.5	-1.8
Energy, gas & water	9	25	-16	5.6	6.6	3.4	2.9	6.7	7.7	9.1	8.0	-1.1	-1.0	-5.7	-5.1
Construction	3,969	2,821	1,148	8.8	7.8	7.7	8.5	6.0	6.4	5.8	6.1	2.7	1.4	2.0	2.5
Trade	5,173	5,893	-720	5.4	5.1	4.6	5.1	5.8	6.2	5.4	5.8	-0.5	-1.1	-0.8	-0.7
Services	7,381	7,823	-442	5.0	4.8	4.4	4.8	5.1	5.6	4.8	5.1	-0.1	-0.8	-0.4	-0.3
Not classified	11,838	2,814	9,024	25.9	22.6	21.4	22.7	5.7	7.0	5.6	5.4	20.2	15.6	15.8	17.3
Total	30,358	22,473	7,885	7.7	7.0	6.6	7.2	5.3	5.9	5.0	5.3	2.4	1.1	1.5	1.9

(\*) Birth rate = % No. of enterprises enrolled (year t) / No. of enterprises registered in (year t-1)

Birth rate = % No. of enterprises ceased (year t) / No. of enterprises registered in (year t-1)

Growth rate = % [No. of enterprises enrolled – No. of enterprises ceased (year t) / No. of enterprises registered in (year t-1)]

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

**Table 1.4.8** - Birth rate, death rate and growth rate by year and geographic area, 2001-2004 (%)

	Milan				Lombardy				Italy			
	2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
Birth rate (%)	7.7	7.0	6.6	7.2	7.6	7.3	6.9	7.5	7.4	7.2	6.7	7.2
Death rate (%)	5.3	5.9	5.0	5.3	5.6	6.1	5.6	5.6	5.8	6.0	5.4	5.7
Growth rate (%)	2.4	1.1	1.5	1.9	2.1	1.2	1.4	1.9	1.6	1.2	1.2	1.5

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

### 1.4.3. The juridical form of enterprises

The breakdown of active enterprises by juridical form suggests us some comments on the level of organizational complexity and solidity of the local economic system. In recent years, the share of joint-stock companies on the total number of active enterprises has been growing, to the detriment of partnerships and individual firms (Table 1.4.9). This trend is coherent with the typical characters of a mature economy.

The higher solidity of the entrepreneurial system in the province of Milan, in comparison with the regional and the national situation, is testified by the higher incidence of joint-stock companies on the total number of active enterprises, and symmetrically by the lower incidence of partnerships and individual firms. At the end of 2004 joint-stock companies were 28.7 of all active enterprises in the province of Milan, in comparison with 21.2 per cent in Lombardy and a national average of 12.5 per cent. Conversely, individual firms represented 47.1 of all active enterprises in the province of Milan, compared with 54.5 per cent in Lombardy and 67.8 per cent in Italy.

In more recent years the number of individual firms began growing again, as a consequence of the new entrepreneurship of extra-UE citizens.

**Table 1.4.9** - Active enterprises by juridical form and geographic area, 2001-2004

	Milan				Lombardy				Italy			
	2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
Joint-stock companies	27.3	28.0	28.3	28.7	19.6	20.3	20.8	21.2	10.8	11.5	12.0	12.5
Partnerships	22.7	22.4	22.1	21.7	23.2	22.9	22.6	22.2	18.0	17.9	17.8	17.7
Individual firms	47.6	47.1	47.0	47.1	55.4	54.8	54.6	54.5	69.3	68.6	68.1	67.8

Other	2.4	2.5	2.5	2.5	1.9	2.0	2.0	2.1	1.9	2.0	2.0	2.0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

**Table 1.4.10** - Active enterprises by juridical form in the province of Milan, 2001-2004

	Year			
	2001	2002	2003	2004
Joint-stock companies	86,887	90,468	92,496	95,389
Partnerships	72,162	72,195	72,157	72,185
Individual firms	151,249	151,942	153,549	156,817
Other	7,661	8,104	8,235	8,353
<b>Total</b>	<b>317,959</b>	<b>322,709</b>	<b>326,437</b>	<b>332,744</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

#### 1.4.4. Sectoral trends

The data in Tables 1.4.1, 1.4.2 and 1.4.3 allows us to analyse short-term trends for the various manufacturing and service activities.

At a macro-sectoral level (Table 1.4.2), in the last years the number of active enterprises in manufacturing industries has been decreasing (-1.1 per cent in 2004 and in 2003, -1.2 per cent in 2002), while tertiary industries show positive trends which are particularly significant for the construction sector (+4.6 per cent in 2004) and in service sectors (+3.8 per cent).

A more detailed analysis is possible by mean of Table 1.4.2 for the manufacturing sectors and Table 1.4.3 for tertiary activities.

The difficulties which manufacturing industry has been facing in more recent years are evident. Negative trends characterize all the industrial sectors which typical of the “made in Italy”: textiles (-0.1 per cent), clothing (-3.6 per cent), leather and leather products (-5.1 per cent), wood and wood products (-5.7 per cent), furniture and other manufacturing industries (-1.1 per cent), fabricated metal products (-1.3 per cent).

Unfortunately, in 2004 the performance of high-tech industries has been even worse: radio, TV and communication equipment (-8.2 per cent, following -4.4 per cent in 2002 and -3.4 per cent in 2003), electrical machinery (-2.5 per cent in 2002, -1.7 per cent in 2003 and -3.3 per cent in 2004), medical, precision and optical instruments (-2.5, -1.7 and -3.3 per cent, respectively). An exception to this negative trend is represented by office, accounting and computing machines (+2.4 per cent in 2002, +5.2 per cent in 2003 and +4.9 per cent in 2004). It is worth reminding the positive trend of food products and beverages (+6.9 per cent in 2004) and of transport equipment except motor vehicles (+5.7 per cent).

In more recent years, the increase in the total number of active enterprises in the province of Milan has been fostered by tertiary activities. A brilliant performance was registered in 2004 by the business services sector (+4.1 per cent), which represent 23.6 per cent of the total number of active enterprises in the province of Milan. It is worth underlining the brilliant performance of real estate activities (+5.2 per cent in 2004) and renting of machinery and equipment (+4.4 per cent). Good news from research and development activities (+3.5 per cent in 2004 after a negative result in 2003) and from the software sector, which improves by 0.5 per cent points the not brilliant performance of 2003, conditioned by the crisis of the new economy after many years of strong expansion.

The financial services industry confirms the negative results of the year 2003, after many years characterized by a strong expansion. A good performance is shown by transport and communications services (+5.4 per cent), thanks to the boom of telecommunications services (+40.8 per cent) and the recovery of land transport activities (4.2 per cent) and notwithstanding the crisis of air transports.

#### 1.4.5. The role of small and medium enterprises

Two key figures summarize the importance of small and medium sized enterprises in the economic structure: 93.8 per cent of enterprises in the province of Milan have less than 10 employees, and 50 per cent of all new enterprises come from existing ones (Table 1.4.11).

The wide changes of the 80's, which shifted the Milan economic system from mass production to tertiary activities, also affected the dimensional structure of businesses: traditional productions, characterised by the presence of large companies, has given way to an integrated network of small and medium sized enterprises.

This notwithstanding, large enterprises still maintain a great importance in the economic system of the province of Milan. Firms with 1,000 or more employees contribute for 29.5 per cent of total employment in the province of Milan, compared with 18.4 per cent in Lombardy and 12.5 per cent in Italy (Table 1.4.11).

**Table 1.4.11** - Enterprises and employees by size class (% , Census 2001)

	Milan	Lombardy	North-West Italy	Italy
<b>Enterprises</b>				
- 1 employee	59.3	56.6	56.5	58.6
- 2 employees	16.6	17.5	18.3	17.5
- From 3 to 5 employees	13.2	14.4	14.5	14.1
- From 6 to 9 employees	4.7	5.2	4.9	4.7
- From 10 to 15 employees	2.7	2.9	2.7	2.4
- From 16 to 19 employees	0.8	0.9	0.8	0.7
- From 20 to 49 employees	1.6	1.6	1.5	1.3
- From 50 to 99 employees	0.5	0.5	0.4	0.3
- From 100 to 199 employees	0.3	0.2	0.2	0.1
- 200 employees or more	0.3	0.2	0.2	0.1
Total	100.0	100.0	100.0	100.0
<b>Employees</b>				
- 1 employee	9.9	11.4	12.4	15.2
- 2 employees	5.5	7.1	8.0	9.1
- From 3 to 5 employees	8.1	10.6	11.6	13.4
- From 6 to 9 employees	5.7	7.5	7.7	8.7
- From 10 to 15 employees	5.5	7.2	7.1	7.6
- From 16 to 19 employees	2.2	3.1	3.0	3.3
- From 20 to 49 employees	8.2	9.9	9.5	9.9
- From 50 to 99 employees	5.9	6.6	6.3	6.0
- From 100 to 249 employees	8.0	8.2	7.8	6.6
- From 250 to 499 employees	5.8	5.5	5.3	4.2
- From 500 to 999 employees	5.7	4.4	4.4	3.4
- 1000 employees or more	29.5	18.4	16.9	12.5
Total	100.0	100.0	100.0	100.0

Source: Istat.

**Table 1.4.12** - Employees by size class of enterprises (% , Censuses 1981, 1991, 2001)

	1-9	10-19	20-99	100-199	200 and +	Total
<b>Year 1981</b>						
Milan	22.4	7.7	14.8	7.0	48.1	100.0
Lombardy	31.5	10.0	17.3	7.3	33.9	100.0
Italy	42.8	10.4	16.1	5.9	24.9	100.0
<b>Year 1991</b>						
Milan	28.9	9.6	16.0	6.2	39.2	100.0
Lombardy	37.0	11.9	18.0	6.2	26.9	100.0
Italy	45.4	11.1	15.7	4.8	23.0	100.0
<b>Year 2001</b>						
Milan	39.9	11.1	21.5	8.6	18.9	100.0
Lombardy	43.4	12.5	21.9	8.1	14.2	100.0
Italy	49.8	12.1	19.4	6.5	12.2	100.0

Source: Istat.

#### 1.4.6. Handicraft enterprises

Handicraft enterprises play an important role in the economic system of the province of Milan: 92,748 enterprises which represent 28 per cent of the total number of enterprises in the province and 35 per cent of the total number of handicraft enterprises in Lombardy (Table 1.4.13).

In 2004 birth and death rates of handicraft enterprises were higher than average in the province of Milan. This situation is typical of critical periods, in which small enterprises encounter higher difficulties than large enterprises. In 2004 the number of handicraft enterprises grew only 0.8 per cent (+1.3 per cent in 2003), more than 1 per cent units less than the average for the enterprises in the province of Milan.

**Table 1.4.13** - Handicraft enterprises by geographic area, 2004

	No. of active handicraft enterprises	% growth rate		Enrolled in 2004	Ceased in 2004	Birth rate (%)	Death rate (%)	% Handicraft enterprises on total enterprises
		2003/2002	2004/2003					
<b>Milan</b>	<b>92,748</b>	<b>1.3</b>	<b>0.8</b>	<b>7,396</b>	<b>6,587</b>	<b>8.0</b>	<b>7.1</b>	<b>27.9</b>
Bergamo	33,148	0.4	0.2	2,362	2,284	7.1	6.9	40.7
Brescia	36,654	1.0	1.1	2,957	2,527	8.1	6.9	35.2
Como	17,563	0.9	1.5	1,566	1,302	9.0	7.5	41.1
Cremona	9,600	-0.1	2.5	837	597	8.9	6.4	34.8
Lecco	9,432	1.6	1.9	742	565	8.0	6.1	40.6
Lodi	5,676	2.8	2.2	528	400	9.5	7.2	37.9
Mantova	13,810	1.0	1.6	1,135	919	8.3	6.7	35.4
Pavia	14,768	0.6	1.0	1,124	971	7.7	6.6	34.4
Sondrio	5,215	1.6	1.6	394	307	7.7	6.0	33.3
Varese	23,897	1.2	0.2	1,931	1,880	8.1	7.9	39.0
<b>Lombardy</b>	<b>262,511</b>	<b>1.0</b>	<b>1.0</b>	<b>20,972</b>	<b>18,339</b>	<b>8.0</b>	<b>40.8</b>	<b>33.4</b>
North-West	443,303	1.1	1.2	37,956	32,592	8.6	7.4	33.5
North-East	347,471	1.3	1.7	31,520	25,713	9.2	7.5	32.6
<b>Italy</b>	<b>1,450,396</b>	<b>1.1</b>	<b>1.3</b>	<b>124,884</b>	<b>106,706</b>	<b>8.6</b>	<b>7.1</b>	<b>28.7</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

Manufacturing and construction industries collect 60 per cent of the total number of handicraft enterprises in the province of Milan (Table 1.4.14). In 2004, the performance of handicraft enterprises in these two sectors was opposite, confirming the more general trends discussed above.

The number of active enterprises in the construction industry grew by 4 per cent, while manufacturing industries registered a negative trend (-2 per cent). In tertiary industries, the number of handicraft enterprises grew by 0.9 per cent.

**Table 1.4.14** - Handicraft enterprises in the province of Milan, by industry

	No. of active handicraft	% growth rate		Enrolled in 2004	Ceased in 2004	Birth rate	Death rate	% Handycraft enterprises on
		2003/2002	2004/2003					
Agriculture, hunting, forestry and fishing	661	6.7	9.3	91	40	15.0	6.6	8.4
Mining	11	0.0	0.0	0	0	0.0	0.0	0.0
Manufacturing	25,661	-1.1	-2.0	1,465	1,881	5.5	7.1	-1.6
Energy, gas and water supply	18	0.0	0.0	0	1	0.0	5.6	-5.6
Construction	31,196	4.7	4.0	3,433	2,231	11.4	7.4	4.0
Wholesale and retail trade, repair	6,677	-1.7	-3.3	283	533	4.1	7.7	-3.6
Hotels and restaurants	308	-13.0	-16.3	0	49	0.0	13.2	-13.2
Transports, storage and communications	11,553	1.1	3.3	1,011	667	9.0	5.9	3.1
Real estate, renting and business activities	6,698	0.5	-1.7	554	550	8.1	8.0	0.1
Health and social work	147	1.9	-8.7	0	9	0.0	5.6	-5.6
Other community, social and personal services	9,506	0.1	0.8	518	591	5.5	6.2	-0.8
Not classified	312	36.9	-9.6	41	35	9.2	7.8	1.3
<b>Total</b>	<b>92,748</b>	<b>1.3</b>	<b>0.8</b>	<b>7,396</b>	<b>6,587</b>	<b>8.0</b>	<b>7.1</b>	<b>0.9</b>

Source: elaborations of Milan Chamber of Commerce on data Infocamere.

## 1.5. INNOVATIVE CAPACITY AND R&D

### 1.5.1. New enterprises in Milan

In 2004 the desire of entrepreneurship started again in Milan. Since 2002 enterprises' growth rate was in decline but during 2004 over 30 thousand new firms were registered to the Chamber of Commerce in Milan (This is the second best result of the last 9 years). At the same time more than 22 thousand enterprises closed down, hence the balance is positive and equal to 8 thousand units.

During last years of economic stagnation, the active firms population has grown in size with a quite unusual high rate (+ 1,9%, against the 1,2 % of 2003 and +1,5% of 2002), which is higher than both the average national growth rate (+1,3%) and the growth rate of other metropolitan areas in North Italy.

At the sectional level the prevalence of productive divisions shows a negative balance, which is particularly with regards to the manufacturing industry; within this scenario, construction industry is the only exception showing a positive trend since several years.

Finally, the birth rate in the Province of Milan is quite similar to the regional and the national values. Regarding, instead retirements from business, the Province shows a rate slightly lower.

**Table 1.5.1** - Active firms by regional area – Years 2001-2004 (*absolute values and percentage variations*)

Geographical areas	Absolute values				Variat. 2001/2000	Variat. 2002/2001	Variat. 2003/2002	Variat. 2004/2003
	2001	2002	2003	2004				
Milan	317,959	322,709	326,437	332,744	2.2	1.5	1.2	1.9
Lombardy	751,638	762,401	771,801	785,771	1.8	1.4	1.2	1.8
Italy	4,897,933	4,952,053	4,995,738	5,061,859	1.2	1.1	0.9	1.3

Source: "Elaborations by the Studies Department based on Infocamere data (Consortium of the Italian Chambers of Commerce)".

**Table 1.5.2** - Registered, closet and birth/death/growth rates by economic sector in the Province of Milan (*absolute values and percentage variations*)

Sectors	Absolute values - 2004			Birth rate				Mortality rate				Growth rate			
	Registered	Closed	Balance	2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
Agriculture - fishing	263	230	33	4.7	4.9	3.9	4.5	5.1	4.8	4.9	3.9	-0.3	0.1	-1.0	0.6
Ores extraction	2	11	-9	1.5	1.0	0.5	1.0	2.6	2.1	3.1	5.7	-1.0	-1.0	-2.6	-4.7
Manufacturing	1,723	2,856	-1,133	3.2	2.8	2.7	2.7	4.2	4.9	4.2	4.5	-1.0	-2.2	-1.5	-1.8
Electric energy, gas and water production	9	25	-16	5.6	6.6	3.4	2.9	6.7	7.7	9.1	8.0	-1.1	-1.0	-5.7	-5.1
Buildings	3,969	2,821	1,148	8.8	7.8	7.7	8.5	6.0	6.4	5.8	6.1	2.7	1.4	2.0	2.5
Trade	5,173	5,893	-720	5.4	5.1	4.6	5.1	5.8	6.2	5.4	5.8	-0.5	-1.1	-0.8	-0.7
Services	7,381	7,823	-442	5.0	4.8	4.4	4.8	5.1	5.6	4.8	5.1	-0.1	-0.8	-0.4	-0.3
Unclassified enterprises	11,838	2,814	9,024	25.9	22.6	21.4	22.7	5.7	7.0	5.6	5.4	20.2	15.6	15.8	17.3
<b>TOTAL</b>	<b>30,358</b>	<b>22,473</b>	<b>7,885</b>	<b>7.7</b>	<b>7.0</b>	<b>6.6</b>	<b>7.2</b>	<b>5.3</b>	<b>5.9</b>	<b>5.0</b>	<b>5.3</b>	<b>2.4</b>	<b>1.1</b>	<b>1.5</b>	<b>1.9</b>

(\*) Rates mentioned above have been obtained by following formulas:

Birth rate:  $TN = \text{registered}(t) / \text{registered}(t-1) * 100$ ;

Mortality rate:  $TM = \text{closed}(t) / \text{registered}(t-1) * 100$ ;

Growth rate:  $TC = [\text{registered}(t) - \text{closed}(t)] / \text{registered}(t-1) * 100$ .

Birth, mortality and growth rates have been determined by taking into account enterprises registered in the previous year because both registered and closed enterprises not necessarily will be part of active enterprises.

Source: "Elaborations by the Studies Department based on Infocamere data (Consortium of the Italian Chambers of Commerce)".

**Table 1.5.3** - Birth, death and growth rates by geographical area – Years 2001-2004 (*percentage variations*)

Rates	Milan				Region Lombardia				Italy			
	2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
Birth	7.7	7.0	6.6	7.2	7.6	7.3	6.9	7.5	7.4	7.2	6.7	7.2
Mortality	5.3	5.9	5.0	5.3	5.6	6.1	5.6	5.6	5.8	6.0	5.4	5.7
Growth	2.4	1.1	1.5	1.9	2.1	1.2	1.4	1.9	1.6	1.2	1.2	1.5

Source: "Elaborations by the Studies Department based on Infocamere data (Consortium of the Italian Chambers of Commerce)".

In the Province of Milan during 2002 13.176 new enterprises were registered on a total number of 27.350 registrations.

Therefore, "real" new firms represent just the 48,2% of firms born during 2002. This rate has decreased in comparison to 2001 (50,5%) when there were 15.111 new firms on 29.934 new registration. The missing 51,8% represents conversions, parcelling out, divisions and filiations of firms.

Relative incidence of new manufacturing firms is higher than the provincial average (52,2% against 48,2%). The highest number of real new registrations occurs for metalworking, plastics working, clothing and leather industries.

Moreover, the number of new firms in construction (59,9%), in transports (62,6%) and in trade (54,6%) is quite large.

Conversely, the sectors where more changes in the companies structure (parcelling out or spin offs) have been registered are the hotels and restoration (61%) and the professional services for enterprises (59,6%) ones with particular focus on the estate activities (75,1%).

Finally, trying to define who the new entrepreneurs are, most of them seems to be males (74%) and young people between 25 and 35 years old (30,2%). Moreover a large number of them is represented by people younger than 25 years of age (26,6%).

**Table 1.5.4** - Registered firms, new firms, transformations, parcellings, separations, spin-offs by economic activity in the Province of Milan. - Year 2002 (*absolute values and percentage variations*)

Sectors	Total number of enterprises registered in 2002 <sup>(1)</sup>	New firms		Transformations, parcellings, separations, spin-offs	
		V.A.	%	V.A.	%
Agriculture, hunting and forestry	308	179	58.1	129	41.9
Fishing	1	0	0.0	1	100.0
Ores extraction	4	1	25.0	3	75.0
Manufacturing	2,397	1,252	52.2	1,145	47.8
Electric energy, gas and water production	37	9	24.3	28	75.7
Buildings	3,879	2,325	59.9	1,554	40.1
Trade	5,963	3,258	54.6	2,705	45.4
Hotels and restaurants	1,127	439	39.0	688	61.0
Transports and storing	1,336	836	62.6	500	37.4
Intermediation monetary and financial	693	378	54.5	315	45.5
Immobilized hire, computer science, research activities	5,691	2,302	40.4	3,389	59.6
Education	141	67	47.5	74	52.5
Health and social services	99	53	53.5	46	46.5
Other public services	874	441	50.5	433	49.5
Home services	0	0	--	0	--
Unclassified enterprises	4,800	1,636	34.1	3,164	65.9
<b>TOTAL</b>	<b>27,350</b>	<b>13,176</b>	<b>48.2</b>	<b>14,174</b>	<b>51.8</b>

<sup>(1)</sup> Enterprises closed, bankrupted and outstanding at 31.12.2002 are not included

Source: "Unioncamere, Observatory of Business Demography".

### 1.5.2. Research and development

Concerning the R&D dynamics in the metropolitan area of Milan exact data on research expenditures regarding the Province of Milan alone don't exist.

In order to understand the current situation of the metropolitan area of Milan it will be given here a brief description of the regional and national enterprise R&D investments.

The last data available (Istat, 2001) about the total resources devolved in Italy for R&D show that the total expenditure for research in that year was about 13,5 billions euro, equal to 1,1% of GDP.

According to this data, more than half of such funding comes from private firms' investments (6.600 billions euro); universities, on their side, give an important support to the research activities (32,6%) while much lower is the Public Administration contribute (18,2%).

In comparison with the European situation it is possible to observe that the share of GDP devolved from Italy to R&D is lower than both the European average (1,98%) and most of the national data considered on their own.

**Table 1.5.5** - Total expenditure on R&D in Europe by geographical area - Years 1995-2001 (*percentage of GDP*)

Geographical areas	Years						
	1995	1996	1997	1998	1999	2000	2001
EU (15 countries)	1.89	1.88	1.87	1.88	1.92	1.95	1.98
Euro-zone (12 countries)	1.83	1.82	1.81	1.82	1.87	1.89	1.91
Belgium	1.64	1.76	1.88	1.91	1.96	2.04	2.17
Denmark	1.84	1.85	1.94	2.06	2.10	2.27	2.40
Germany	2.15	2.19	2.30	2.33	2.44	2.49	2.51
Greece	0.43	-	0.46	-	0.65	-	0.64
Spain	0.79	0.80	0.81	0.90	0.88	0.94	0.95
France	2.30	2.27	2.24	2.18	2.18	2.18	2.23
Irish Republic	1.39	1.33	1.22	1.25	1.20	1.15	1.17
<b>Italy</b>	<b>1.10</b>	<b>1.02</b>	<b>1.05</b>	<b>1.07</b>	<b>1.04</b>	<b>1.07</b>	<b>1.11</b>
Luxembourg	-	-	-	-	-	1.71	-
Netherlands	1.89	1.97	2.05	1.95	2.02	1.90	1.89
Austria	1.49	1.57	1.72	1.80	1.86	1.84	1.90
Portugal	0.56	-	0.61	-	0.75	-	0.85
Finland	2.19	2.49	2.68	2.90	3.23	3.40	3.41
Sweden	3.35	-	3.55	3.62	3.65	-	4.27
UK	1.97	1.90	1.82	1.81	1.84	1.84	1.89
Iceland	1.54	-	1.88	2.07	2.38	2.76	3.06
Norway	1.70	-	1.64	-	1.65	-	1.60

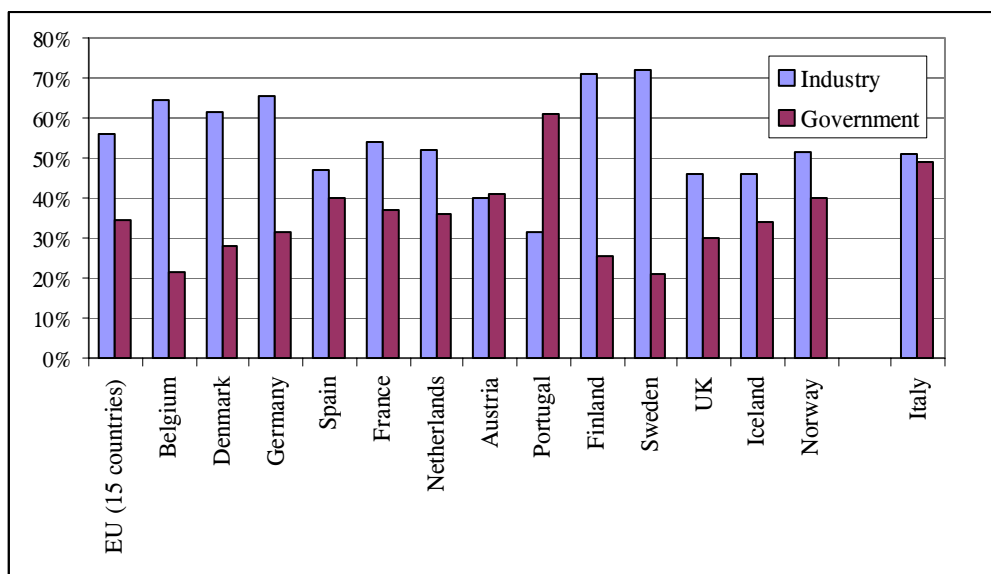
Source: Eurostat.

In Italy during the last years the resources devolved to research has been kept at a quite steady levels, oppositely to what happened in other countries where this kind of funding was, sometimes strongly, increased.

It has to be noticed that in Italy the share of R&D funding given by private enterprises is equal to 51%. This value is lower than its equivalent in the other industrialised countries.

By looking in more detail at the Italian investments, Lombardy Region is the region with the highest investments in R&D: about 3 billions of euro, equal to 1,2% of regional GDP and 22,2% of the national investments.



**Graph 1.5.1 - Public and private R&D by geographical areas - Year 2001**

\* Data referring to Italy, under “Government” label, report university’s and Public Administration’s investments and represent the whole expenditure for R&D; Eurostat data for European countries don’t represent the whole expenditure for research activities.

Source: Elaboration by the Studies Department based on Eurostat and Istat data.

**Table 1.5.6 - Intra-muros R&D expenditure by geographical area - Year 2001 (values in thousand euros)**

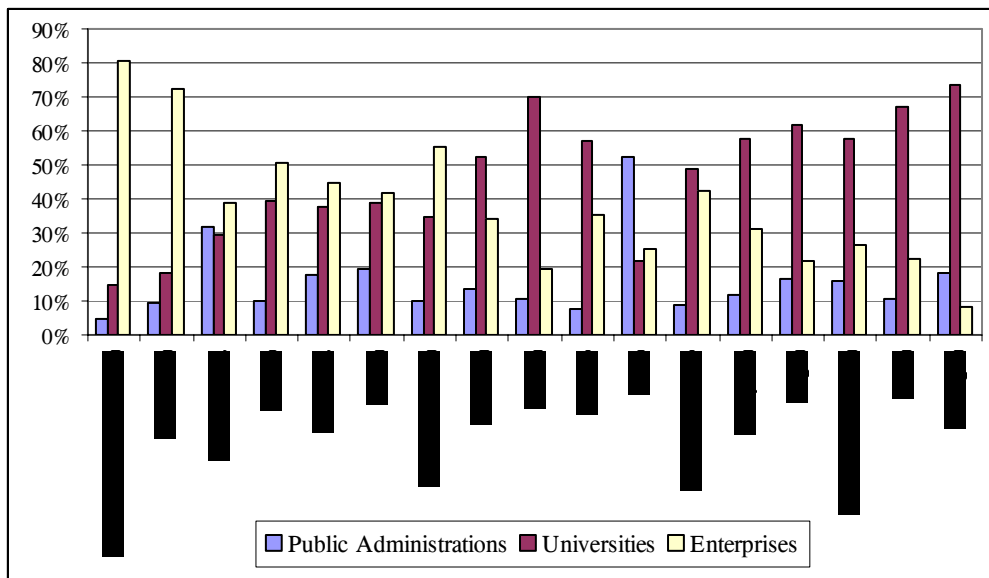
Geographical areas (by Regions)	Absolute values				R&S expenditure (% GDP)
	Public Administrations	Universities	Enterprises	Total	
Piemonte - Valle d'Aosta	85,815	266,554	1,480,557	1,832,926	1.7
Lombardia	285,214	553,885	2,172,117	3,011,216	1.2
Trentino A.A.	45,627	41,811	55,588	143,026	0.5
Veneto	67,626	272,260	346,805	686,691	0.6
Friuli V. G.	60,493	132,174	155,810	348,477	1.2
Liguria	63,383	128,703	139,046	331,132	0.9
Emilia Romagna	121,522	427,633	680,355	1,229,510	1.2
Toscana	118,804	466,292	301,572	886,668	1.1
Umbria	14,880	96,832	26,528	138,240	0.8
Marche	13,549	101,046	63,090	177,685	0.6
Lazio	1,336,988	561,575	650,960	2,549,523	2.1
Abruzzo - Molise	20,148	111,025	95,817	226,990	0.8
Campania	86,806	433,193	232,928	752,927	0.9
Puglia	52,020	196,821	69,630	318,471	0.6
Calabria - Basilicata	24,238	88,544	40,628	153,410	0.4
Sicilia	62,247	405,440	134,493	602,180	0.8
Sardegna	33,934	134,487	14,976	183,397	0.7
North Italy	729,680	1,823,020	5,030,278	7,582,978	1.1
Central Italy	1,484,221	1,225,745	1,042,150	3,752,116	1.5
South Italy	279,393	1,369,510	588,472	2,237,375	0.7
ITALY	2,493,294	4,418,275	6,660,900	13,572,469	1.1

Source: ISTAT.

The analysis at the regional level confirms the national trend, according to which most of the investments are driven by enterprises. This result is particularly true in the case of Lombardy where 72% of total resources is coming from firms. This could explain why the regional share is highly above the national average.

University (18,4%) and PA (9,5%) investments are more limited. Both of them are below national average.

**Graph 1.5.2 - Total R&D expenditure by geographical area - Year 2001**



Source: Elaboration by the Studies Department based on Istat data.

Out of 154.000 persons employed in R&D activities in Italy (2001), 52,6% are concentrated in the North and 18,6% in Lombardy Region. More exactly, in this region 28.696 persons are employed, 65% of whom in private enterprises, while 23,2% in public universities.

**Table 1.5.7 - R&D personnel by geographical area - Year 2001 (absolute values)**

Geographical areas (by Regions)	Absolute values				% R&D workers (every 1000 inhabitants)
	Public Administrations	Universities	Enterprises	Total	
Piemonte - Valle d'Aosta	1,077	3,093	13,853	18,023	4.2
Lombardia	3,345	6,660	18,691	28,696	3.2
Trentino A.A.	536	484	849	1,869	2
Veneto	1,063	3,677	4,215	8,955	2
Friuli V. G.	656	1,928	1,475	4,059	3.4
Liguria	956	1,483	2,124	4,563	2.9
Emilia Romagna	1,614	5,528	7,704	14,846	3.7
Toscana	1,839	5,159	2,922	9,920	2.8
Umbria	198	1,696	419	2,313	2.8
Marche	223	1,300	915	2,438	1.7
Lazio	13,424	8,331	5,795	27,550	5.4
Abruzzo - Molise	263	1,607	1,184	3,054	1.9
Campania	1,704	6,254	2,555	10,513	1.8
Puglia	963	2,767	947	4,677	1.2
Calabria - Basilicata	432	1,441	358	2,231	0.9
Sicilia	929	5,676	996	7,601	1.5
Sardegna	543	1,785	269	2,597	1.6

North Italy	9,247	22,853	48,911	81,011	3.2
Central Italy	15,684	16,486	10,051	42,221	3.9
South Italy	4,834	19,530	6,309	30,673	1.5
ITALY	29,765	58,869	65,271	153,905	2.7

\* Units express by means of full time equivalent units

Source: ISTAT.

In order to supplement the analytical data shown above, it is necessary to add some comments about the Italian R&D situation.

First of all, there is a limited aptitude in investing for radical innovation due to the dimension of Italian firms (most of them are SMEs)

Firms are more likely to invest in incremental innovations, particularly process innovations which do not lead to patents. Incremental innovation is often realised with internal resources so the firm doesn't need to acquire external capabilities (University and Research Centres). It implies that the firms tend to consider R&D expenditures as running costs rather than depreciation costs (that are fiscally less attractive).

The conclusion is that the real investment level in innovation of Italian firms is actually higher than the level emerging from the statistical data. Several studies have been conducting on the Italian firms' innovation ability. What actually happens is that most of the Italian innovation is developed in an informal way, both within industrial districts and within the customer-supplier chain.

One element that could be useful in order to understand better the Italian enterprises ability to innovate is the annual "Committee Innovation Scoreboard". According to this publication, Italy lies at the first place considering firms' ability to generate new products.

### 1.5.3. The Patent activity

Considering the number of registered patent requests (both national and international), the Province of Milan holds the Italian leadership having registered 1380 patent applications, equal to 80% of the regional and to 17,7 of the national patent registrations (2003).

At the regional level Milan's leadership is almost absolute, even because applicants make often use of attorneys' help and consultants mainly located in Milan. For this reason it is quite usual to find firms coming from other regions registering their patent in Milan's Patent Office by the Chamber of Trade.

In 2003 data show an important decrease in the number of patent applications in Milan where the patent office, despite still being leader, has halved the number of applications. Consequently, a decrease happened in the number of applications even at the regional level (-44,7%).

Given that Milan has represented in 2002 the 31% of the whole national applications, this reduction becomes more evident.

While the number of applications is falling both at the national level (-11,7%) and at the inter-regional level in North-West (-24,1%) and North-East (-5,8%), in the Middle and in the South Italy this number is growing.

**Table 1.5.8** - Patent applications by invention and geographical area - 1996-2003 years (*absolute values*)

Geographical areas	Years							
	1996	1997	1998	1999	2000	2001	2002	2003
Milano	2,767	2,907	2,872	1,724	2,811	2,841	2,784	1,380
Varese	30	41	28	37	44	48	68	52
Como	33	22	21	23	15	23	20	13
Sondrio	0	1	1	3	3	7	5	2
Bergamo	50	48	75	62	42	47	47	62
Brescia	102	104	88	118	126	115	120	131
Pavia	12	12	13	14	7	10	13	11

Cremona	5	13	8	12	18	12	25	14
Mantova	42	46	46	4	0	50	37	48
Lecco	0	0	3	6	0	5	4	8
Lodi	0	0	0	0	0	0	0	7
Lombardy	3,041	3,194	3,155	2,003	3,066	3,158	3,123	1,728
The Northwest	4,362	4,562	4,514	3,344	4,101	4,282	4,000	3,037
The Northeast	2,420	2,626	2,599	2,632	2,240	2,845	2,908	2,738
Central Italy	1,682	1,611	1,598	1,582	1,385	1,571	1,492	1,570
The South and Island	424	474	407	225	231	437	437	462
Italy	8,888	9,273	9,118	7,783	7,957	9,135	8,837	7,807

Source: Ministero delle Attività Produttive.

The patent dynamics of Milan since 1996 has been characterised by a initial growth until 1997, followed by a steady stage in 1998 and a quickly fall in 1999. After this year it slowly started growing again from 2000 until 2003 when the crushing collapse happened registering the lowest level in the 8 years long period considered.

This crisis happened probably because of the bad economic situation that led firms to decrease their investments in R&D and consequently to slow down their patent activity.

**Table 1.5.9** - European patent applications by Italian enterprises by geographical areas - 1997-2002 years\* (absolute values)

Geographical areas	Years					
	1997	1998	1999	2000	2001	2002
Milan	840	851	883	964	1,002	1,049
Lombardy	1,144	1,245	1,234	1,405	1,547	1,511
Italy	2,901	3,293	3,414	3,875	4,093	4,202

\* Research has been conducted through Epoque database by applicant's country (Italy), by regional code e by application date. Data related to 2002 could be temporary because of delays in publication. Italian applicant could result Italian just for the label "Italy", while for the other countries it could be an unknown enterprise.

Source: EPO (European Patent Office).

In 2002, 1049 applications for European patents have been registered in Milan, with an increase of +4,7% compared with the equivalent data of the previous year. This growth is two points higher than the national growth (+2,7%). At the same time, looking at the regional level, Lombardy has registered a decrease equal to -2,7%.

The incidence of patents registered in Milan is strong both compared to the total number at the regional level (69,4%) and the national level (25%). This data confirm that Milan has definitely a leading role.

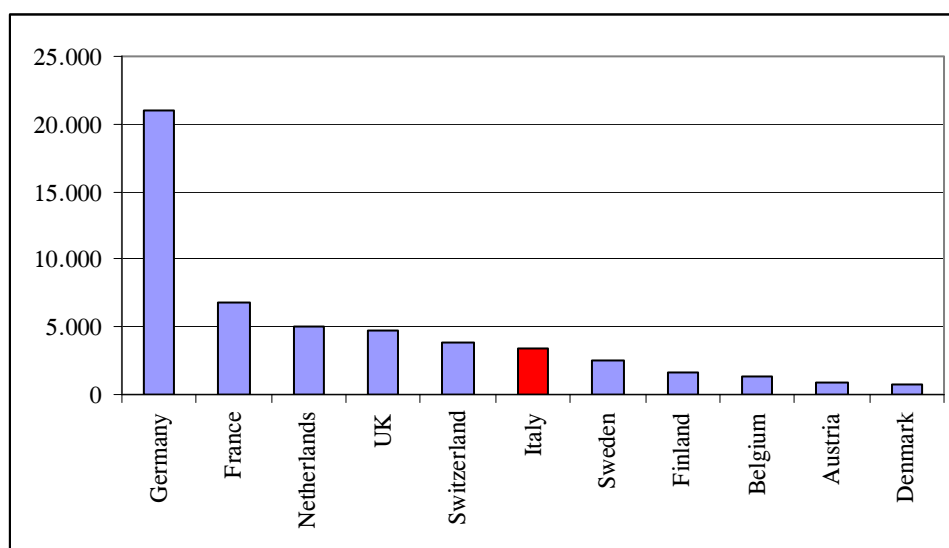
The number of European patent applications at the province level has continuously increased between 1997-2002 with a rate of about 25%. The growth rate at regional level (+32%) and at national level were higher, and the number of applications had almost doubled (+44,8%).

Nevertheless, considering the number of patent applications Italy appears quite late in comparison with other European countries.

According to the data published by EPO in the Annual Report 2002, where data have been aggregated at the national level, the number of Italian patent applications results to be just 6,2% of the total applications registered by all European countries.

Across them, Germany is leader with more than 21.000 applications (39,4% of the total), followed by France (12,8%), UK (8,8%) and Switzerland (7,3%). Italy lies at the sixth place, followed by Sweden and Finland.

Anyway, the 53.440 European patent applications mentioned above represent just the 50,3% of the whole number of applications registered by EPO during 2002 (106.243). The residual applications are coming from US, Japan and others countries.

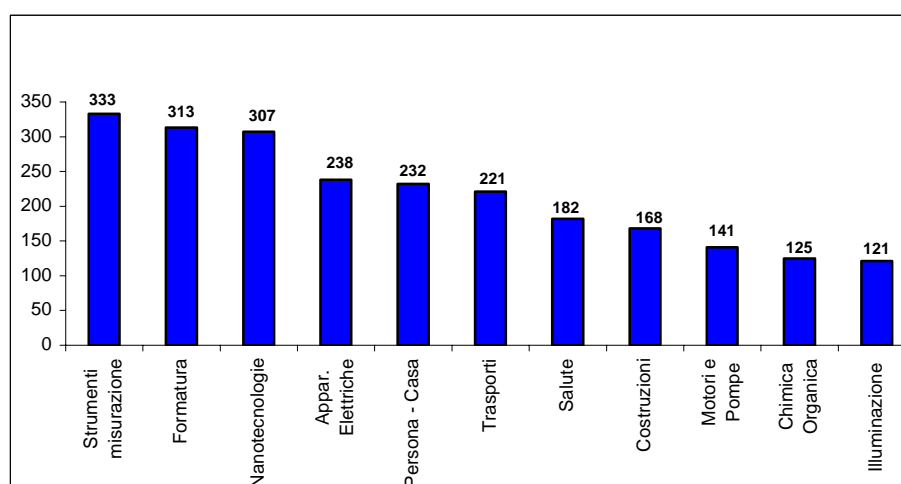
**Graph 1.5.3** - Euro-PCT \* and European patent applications for several European countries – 2002 (*absolute values*)

\* Euro-PCT patent applications arrived to the regional step.

Source: European Patent Office - Annual Report 2002.

In order to understand in which sectors Italy is leader in patenting, it is possible to observe that most of the Italian patents concern measurement instruments (333 applications). Moreover, there are 307 patents related to nano- and micro-technologies (representing leading edge research nowadays), followed by electrical equipments, personal care, house and transport articles.

Our strongest European competitors, considering the number of applications, are Germany, France and UK. Germany is particularly strong in electrical and transport fields. The others are more qualified in electronics and precision instruments.

**Graph 1.5.4** - Italian applications for European patent by sectors – 2002 (*absolute values*)

Source: European Patent Office - Annual Report 2002.

Despite the fact that the data analyzed above show Italian firms patenting in high technology sectors as nanotechnologies, it has to be noticed that our European competitors are stronger than us in patenting inventions and this is a signal of their stronger involvement in R&D activities.

In order to present the role played by Milan within the whole Italian patent activity and to add some more information to the previous version (see Chapter 1.5.3), the present note is going to make a comparison between patent granted by Milan and Italy during the three years long period from 2001 to 2003. The analysis has been conducted at the following levels:

1. Quantitative analysis of patent activity aimed to investigate the role of Milan taking into account the whole number of granted patents classified by year and by type of patent;
2. Analysis by sector aimed to identify the leading patenting sectors and to investigate whether there are significant differences in the distribution of patents across IPC sectors between Milan and Italy;
3. Analysis of European patent activity (EPO patents) by Italian and Milan enterprises.

#### 1.5.3.1 Quantitative analysis

In order to show how Milan plays an important role within the whole Italian patent activity, we are going to compare the number of **granted** patents at national and local level. Table 1.5.10 is complementary to Table 1.5.8 that reported on Italian patent applications. Results of Table 1.5.10 are described by means of Graph 1 that would help to give a quicker understanding of the main patenting trends. Mainly, the results of such analysis are:

- from 2001 to 2003 Milan played a leading role in the national patenting activity: out of 49.745 Italian patents granted, 15.188 (31%) have been registered by Milan;
- the global trend shows a rise in the number of granted patents between 2001 and 2002, followed by a decrease of such number during the subsequent year (2003). Such a trend is consistent with the fall in the number of applications shown by Table 1.5.8;
- most of the granted patents are patents for inventions (44% of the whole number of granted patents), the only one showing a steady growth for three years in successions;
- by looking at the global results the ratio of Milan patents to the whole Italian patents is increasing from 22% to 36% and it means that Milan is becoming more important for patenting;
- the trend of such a ratio differ between different types of patents: for inventions is more than tripled since 2001 till a value equal to 43% while both for utility models and design patents after an increase in 2001 it started to decrease in 2002. It could mean that Milan is getting stronger on inventions rather than for the other two types of patents.

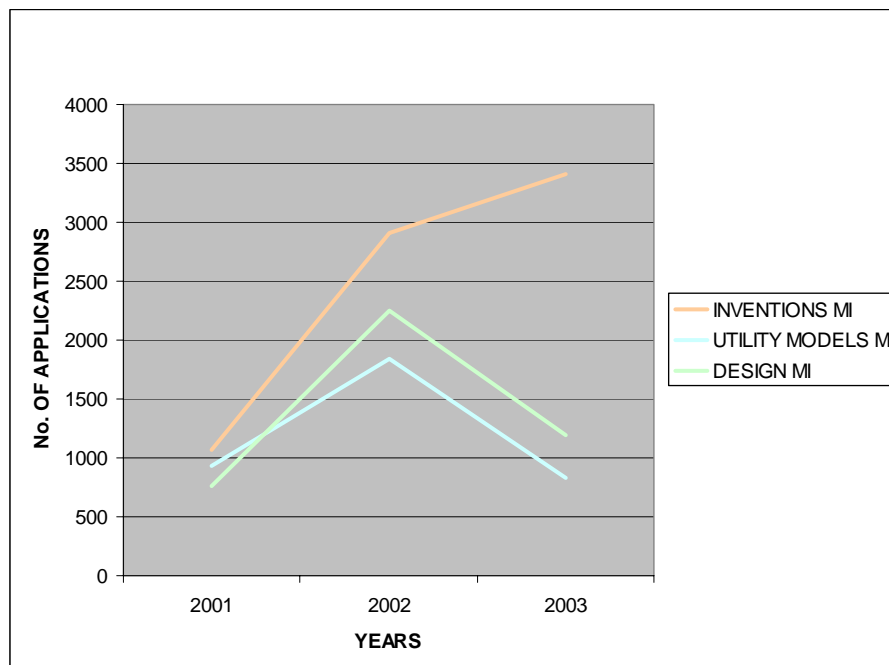
**Table 1.5.10** - Granted patents by Italian Patent Office

Year	2001	2002	2003	Total
<b>INVENTIONS</b>				
Italy	6,180	7,969	7,907	22,056
Milan	1,065	2,904	3,411	7,380
% MI/IT	17%	36%	43%	33%
<b>UTILITY MODELS</b>				
Italy	4,551	6,949	4,069	15,569
Milan	934	1,846	827	3,607
% MI/IT	21%	27%	20%	23%
<b>DESIGN</b>				
Italy	1,796	7,097	3,227	12,120
Milan	756	2,255	1,190	4,201
% MI/IT	42%	32%	37%	35%
<b>TOTAL</b>				
Italy	12,527	22,015	15,203	49,745

Milan	2,755	7,005	5,428	15,188
% MI/IT	22%	32%	36%	31%

Source: UIBM, Ufficio Italiano Brevetti e Marchi (Italian Patent and Trademark Office).

**Graph 1.5.5** - Trends of granted Patents to the Italian Patent Office by Milan Chamber of Commerce



#### 1.5.3.2 Milan patent activity by sectors

The following Tables show the same data presented in Table 1.5.10 (Granted patents by Italian Patent Office) but they have been classified by sectors. Such a classification take account of the first level of the IPC given by EPO.

**Table 1.5.11** - Italian patents for inventions by IPC sectors

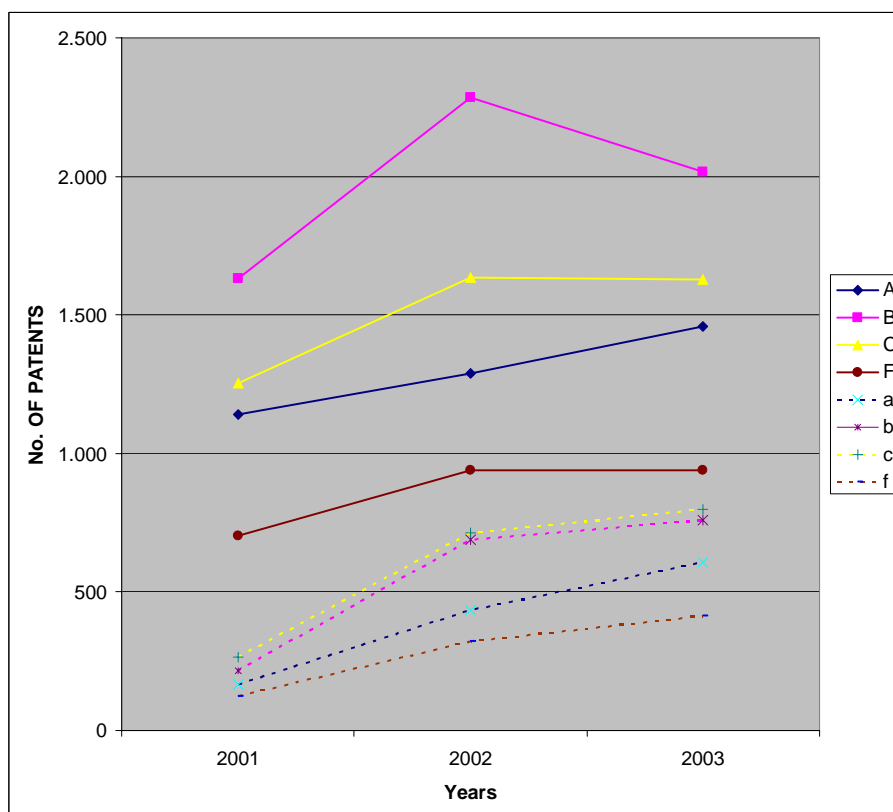
INVENTIONS									
SECTORS	2001			2002			2003		
	IT	MI	%	IT	MI	% M	IT	MI	%
A. HUMAN NECESSITIES	1.141	165	14%	1.289	435	34%	1.460	607	42%
B. PERFORMING OPERATIONS; TRANSPORTING	1.632	217	13%	2.285	689	30%	2.018	760	38%
C. CHEMISTRY; METALLURGY	1.253	264	21%	1.636	713	44%	1.629	797	49%
D. TEXTILES; PAPER	251	76	30%	363	172	47%	313	187	60%
E. FIXED CONSTRUCTIONS	345	39	11%	448	113	25%	411	134	33%
F. MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING ENGINES OR PUMPS	702	124	18%	941	321	34%	938	413	44%
G. PHYSICS	436	67	15%	474	174	37%	572	235	41%
H. ELECTRICITY	420	113	27%	533	287	54%	566	278	49%

Source: UIBM, Ufficio Italiano Brevetti e Marchi (Italian Patent and Trademark Office).

**Table 1.5.12** - Italian utility models patents by IPC sectors

UTILITY MODELS									
SECTORS	2001			2002			2003		
	IT	MI	%	IT	MI	%	IT	MI	%
A. HUMAN NECESSITIES	1.331	236	18%	2.050	473	23%	1.243	229	18%
B. PERFORMING OPERATIONS; TRANSPORTING	1.051	199	19%	1.544	439	28%	946	200	21%
C. CHEMISTRY; METALLURGY	841	175	21%	1.246	337	27%	704	121	17%
D. TEXTILES; PAPER	73	18	25%	144	41	28%	49	8	16%
E. FIXED CONSTRUCTIONS	387	79	20%	540	117	22%	286	43	15%
F. MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING ENGINES OR PUMPS	441	111	25%	662	214	32%	426	133	31%
G. PHYSICS	231	53	23%	451	116	26%	234	46	20%
H. ELECTRICITY	196	63	32%	312	109	35%	181	47	26%

Source: UIBM, Ufficio Italiano Brevetti e Marchi (Italian Patent and Trademark Office).

**Graph 1.5.6** - Italian Patents for inventions by sectors

Capital letters refer to Italian data, non capital letters refer to Milan data.

Graph 1.5.6 sums up data related to those sectors with a more intensive patent activity. Data are referring just to patents for inventions as they appeared the most important from previous analysis. Such sectors are A, B, C and F and they play different roles at national and local level. By looking at Italian data the most intensive patent activity seems to be related with sector Performing Operation and Transporting (B) while by looking at Milan the leading position is held by Chemistry and Metallurgy (C). Human Necessities (A) and Mechanical Engineering (F) follow at the third and the fourth place in both cases. In conclusion among the key sectors active in private innovation in the province of Milan, Chemistry (C) clearly stands out



(organic chemistry, macromolecular compounds and petrochemicals). Finally, data show the leading role that Milan plays in Textiles and Paper sector (D): in this sector Milan files 60% of the whole Italian granted patents for inventions (2003).

Comparing the main European capitals, Milan's innovation index, obtained by multiplying the number of patents requested by the number of inhabitants and by the number of universities located in the metropolitan area, ranks the city third after Paris and London .

### 1.5.3.3 European patents <sup>1,2</sup>

The following section will focus the attention on European patents (EPO patents). Basically, Table 1.5.13 shows the number of European patent applications by Italian Patent Office and the number of granted EPO patents obtained both at the national and at the Milan's level. Graph 1.5.6 shows trends of EPO patents.

The main results are:

- the number of applications for European patent is steady increasing since 1998;
- the number of granted patents after a period when it has decreased (-8% every year from 1998 to 2001), started to slowly grow again in 2001 (+1%) and it kept such a trend till 2003 with an increase equal to 35% in 2002 and to 15% in 2003.

Such increasing trends could be explained with the fact that in the last years Public Administration and particularly the Province of Milan has supported patent activities by means of several calls for proposal and funding help especially to SMEs.

Even accounting EPO patents, Milan plays a leading role. It is possible to notice that:

- on average a fourth of the whole national requests for patents has been yearly filed by Milan;
- about the 40% of granted patents has been registered by Milan;
- moreover, accounting the global results, the rate of granted patents on applications submitted by Milan (55%) is bigger than the equivalent value at the national level (34%).

These last data could mean that Milan applications are more successful than applications at the national level or at least that by applying in Milan it is more likely to end up with a better performance.

**Table 1.5.13 - EPO Patents by national and local application**

Year	1998	1999	2000	2001	2002	2003
<b>Patent applications</b>						
Italy	3,293	3,414	3,875	4,093	4,202	n.a.
Milan	851	883	964	1,002	1,049	n.a.
MI/IT	26%	26%	25%	24%	25%	-
<b>Granted patents</b>						
Italy	1,068	893	813	968	1,433	1,820
Milan	429	399	368	373	571	673
MI/IT	40%	45%	45%	39%	40%	37%

1 Source: EPO.

2 Source: Statistics by Milan Province's Economic Activities Department (<http://temi.provincia.milano.it/economia/inglese/institutional/milan.html>).

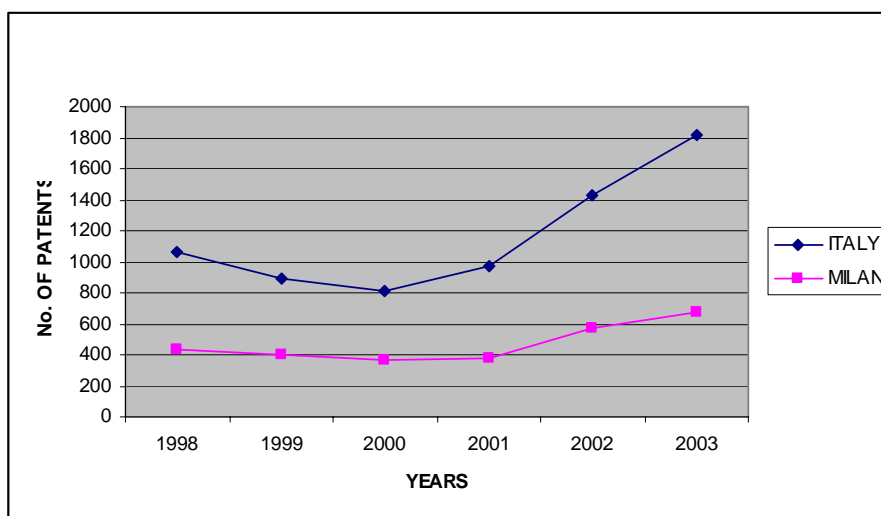
**Graph 1.5.7 - Granted Patents by EPO**

Table 1.5.4 and Table 1.5.5 show the number of European patents filed by Italy and Milan between 1997 and 2001. Sectors reported by Table 5 are those ten sectors with the highest number of EPO patents, while sectors reported by Table 6 are those sectors with the highest number of EPO granted patents with Italian priority. The first sector is the same for Italy and Europe, while the subsequent sectors differ between Italian and European patent activity.

Finally, Table 1.5.15 reports data arranged by the number of patents granted by Milan. It is possible to observe, that:

- “Preparations for medical, dental, or toilet purposes” (A61K) lies at the first place either accounting for Italy or Milan number of European patents;
- In both Tables, even with different order, it is possible to find the same sectors at the first four positions.

In conclusion, the most important sector for patenting at the European level appears to be the same that at the Italian one. Moreover, Milan patent activity is strongest in the leading Italian sectors.

**Table 1.5.14 - EPO patents by sectors**

Sectors	IPC ID	Patents EPO	% Tot EPO	Patents IT	IT/ EPO	Patents MI	MI/ EPO
Preparations for medical, dental, or toilet purposes	A61K	62.182	9,1%	930	1,5%	625	1,0%
Electric digital data processing	G06F	34.941	5,1%	84	0,2%	25	N.S.
Micro-organisms or enzymes; mutation or genetic engineering; culture media	C12N	28.982	4,2%	135	0,5%	77	0,2%
Investigating or analysing materials by determining their chemical or physical properties	G01N	25.348	3,7%	176	0,7%	79	0,3%
Peptides	C07K	21.515	3,1%	138	0,6%	79	0,3%
Heterocyclic compounds	C07D	20.972	3,1%	341	1,6%	304	1,4%
Transmission of digital information	H04L	18.431	2,7%	72	0,4%	34	0,2%
Semiconductor devices; electric solid state devices not otherwise provided for	H01L	18.345	2,7%	43	0,2%	19	0,1%
Pictorial communication, e.g. Television	H04N	15.568	2,3%	56	0,4%	11	N.S.
Acyclic or carbocyclic compounds	C07C	15.081	2,2%	317	2,1%	270	1,8%
<b>TOTAL FIRST TEN SECTORS</b>		<b>261.365</b>	<b>38,2%</b>	<b>2.292</b>	<b>0,9%</b>	<b>1.523</b>	<b>0,58%</b>
<b>TOTAL</b>		<b>684.315</b>	<b>100%</b>	<b>14.096</b>	<b>2,06%</b>	<b>5.005</b>	<b>0,73%</b>

Source: Consorzio Politecnico Innovazione.

Table 1.5.15 - EPO patents by sectors

Sectors	IPC	Patents IT	% Tot IT	IT/ EPO	Patents MI	MI/ IT	MI/ EPO
Preparations for medical, dental, or toilet purposes	A61K	930	6,60%	1,50%	625	67,20%	1%
Heterocyclic compounds	C07D	341	2,40%	1,60%	304	89,10%	1,40%
Acyclic or carbocyclic compounds	C07C	317	2,20%	2,10%	260	82%	1,80%
Containers for storage or transport of materials, e.g. Bags, barrels, bottles, boxes...; accessories, closures, or fittings therefor; packaging elements;	B65D	398	2,80%	3,60%	135	33,90%	1,20%
Shaping or joining of plastics; after-treatment of the shaped products, e.g. Repairing	B29C	286	2,00%	3,50%	107	37,40%	1,20%
Investigating or analysing materials by determining their chemical or physical properties	G01N	176	1,20%	0,70%	79	44,90%	0,30%
Handling thin or filamentary material, e.g. Sheets, webs, cables	B65H	224	1,60%	5,50%	68	30,40%	1,60%
Transport or storage devices, e.g. Conveyers for loading or tipping; pneumatic tube conveyers	B65G	262	1,90%	6,80%	62	23,70%	1,60%
Machines, apparatus for packaging articles or materials; unpacking	B65B	434	3,10%	12,50%	61	14,10%	1,70%
Characteristic features of footwear; parts of footwear	A43B	161	1,10%	14,30%	26	16,10%	2,30%
Total ten sectors		3.529	25%				
Total italian patents		14.096	100%				

Source: Consorzio Politecnico Innovazione.

#### 1.5.4. Foreign investments dynamics

There are 15.058 foreign enterprises participated by Italian firms (control, controlling interest and minority stake). Investing enterprises, both financial-industrial groups and independent firms are 5.415 units. The number of employees abroad is 1.108.977 and the turnover done by foreign affiliates during 2003 was 265.625 billions of euro. The control stock are concerning with the 85,2 % of controlled enterprises, 79, 3% of employees and 79,7% of the total turnover.

On the other side, during 2003 there were 7.201 Italian enterprises participated by 3.910 foreign firms with 938.545 employees and a turnover of 356.845 billions euro. Control stocks are here absolutely dominant, interesting 91,8% of firms, 85,9% of employees and 84,7% of the total turnover.

The role of Milan's enterprises in the internationalisation dynamics of investments is very important. There are 947 Milan's firms having invested abroad (17,4% of the national total) carrying out control stocks or minority stakes with 3245 enterprises which are employing 212.551 people. In Milan there are 3207 enterprises (42%) participated by foreign firms. This data show the trend of foreign companies to locate their headquarters in the Milan, the main Italian industrial city. Anyway, the long period dynamics points out a progressive reduction of the share held by Milan's firms. For instance during 1986 the 23% of Italian investors was located in Milan, but this share felt to 10,5% in 2004.

**Table 1.5.16** - Productive internationalisation of Italian industry on 1st January 2004

	Italian participation abroad (a)		Foreign participation in Italy (b)		(b/a)
	N.	%	N.	%	
<b>Total</b>					
Investor enterprises (N.)	5,415	100.0	3,910	100.0	1.38
Participated enterprises (N.)	15,058	100.0	7,201	100.0	2.09
Employees (N.)	1,108,977	100.0	938,545	100.0	1.18
Sales (Mln euro)	265,625	100.0	356,845	100.0	0.74
<b>Control participations</b>					
Investor enterprises (N.)	4,613	85.2	3,692	94.4	1.25
Participated enterprises (N.)	12,825	85.2	6,612	91.8	1.95
Employees (N.)	878,958	79.3	806,373	85.9	1.09
Sales (Mln euro)	211,807	79.7	302,410	84.7	0.70
<b>Equal and minority participations</b>					
Investor enterprises (N.)	1,237	22.8	416	10.6	2.97
Participated enterprises (N.)	2,233	14.8	589	8.2	3.79
Employees (N.)	230,019	20.7	132,172	14.1	1.74
Sales (Mln euro)	53,818	20.3	54,435	15.3	0.99

Source: Reprint Database, ICE-Politecnico di Milano.

**Table 1.5.17** - Region Lombardia's and Milan's enterprises on 1st January 2004

	Province of Milan				Region Lombardia			
	Total		Control participations		Total		Control participations	
	N.	% on Italy	N.	% on Italy	N.	% on Italy	N.	% on Italy
<b>Abroad participations (outgoing)</b>								
Investor enterprises (N.)	947	17.5	827	17.9	1,915	35.3	1,655	35.9
Participated enterprises (N.)	3,245	21.6	2,644	20.6	5,428	36.0	4,452	34.7
Employees (N.)	212,551	19.2	162,671	18.5	387,410	34.9	276,044	31.4
Sales (Mln euro)	41,610	15.7	32,663	15.4	72,926	27.5	56,812	26.8
<b>Foreign participations (incoming)</b>								
Investor enterprises (N.)	3,027	42.0	2,873	43.5	3,740	51.9	3,523	53.3
Participated enterprises (N.)	717	18.3	656	18.9	1,376	35.2	1,242	35.8
Employees (N.)	340,086	36.2	311,574	38.6	438,104	46.7	398,325	49.4
Sales (Mln euro)	144,960	40.6	133,243	44.1	169,274	47.4	154,216	51.1

Source: Reprint Database, ICE-Politecnico di Milano.

#### 1.5.4.1 Milan's investments abroad

Concerning the investments sectorial distribution, in comparison with the national average, the high-tech sector results the "winner". Conversely, traditional and specialised sectors turn out having a limited impact.

Production's delocalization is particularly important in chemical, pharmaceutical, fibre, rubber and plastic products, electric and electronic products chains.

**Table 1.5.18** - Foreign enterprises participated by Milan's enterprises, by sectors on 1st January 2004

	Foreign enterprises participated by Italian enterprises			Participated foreign enterprises employees		
	N.	%	% on Italy	N.	%	% on Italy
Mining industry	6	0.2	2.8	36	0.0	0.3
Manufacturing industry	1,003	30.9	18.5	156,558	73.7	17.9
EE, gas and water	104	3.2	29.5	2,413	1.1	32.0
buildings	382	11.8	51.6	23,972	11.3	74.0
Wholesale trade	1,278	39.4	20.8	20,857	9.8	20.6

Transports and logistics	139	4.3	17.1	938	0.4	11.4
Informatics and telecommunication services	66	2.0	14.6	1,206	0.6	2.3
Other services	267	8.2	29.1	6,571	3.1	31.7
Total	3,245	100.0	21.6	212,551	100.0	19.2

Source: Reprint Database, ICE-Politecnico di Milano.

The most recent dynamics highlights an important reduction in the amount of Milan's firms shares abroad. The strong decrease happened during 2003 could be explained by looking at the divestment done by Italennergia in the agro-food sector activities controlled through Eridania and Beghin-Say.

Even the trend in mechanical sector is negative, while rubber and plastic products sector is the only one in manufacturing highlighting an increase during the entire period.

Within the remaining sectors the positive dynamics of the constructions sector deserves to be pointed out.

**Table 1.5.19** - Foreign enterprises participated by Milan's enterprises, by sectors (1st January 2000 – 1st January 2004)

	Foreign enterprises participated by Italian enterprises				Partecipated foreign enterprises employees			
	2001	2002	2003	2004	2001	2002	2003	2004
Mining industry	5	6	6	6	15	37	36	36
Manufacturing industry	1,128	1,159	993	1,003	201,733	205,930	160,712	156,558
EE, gas and water	60	63	103	104	2,276	2,282	2,411	2,413
buildings	318	324	377	382	19,995	16,686	28,451	23,972
Wholesale trade	1,279	1,336	1,271	1,278	22,265	24,061	20,915	20,857
Transports and logistics	135	135	137	139	939	934	842	938
Informatics and telecommunication services	50	64	67	66	867	1,728	1,771	1,206
Other services	247	256	254	267	6,830	7,787	6,751	6,571
Total	3,222	3,343	3,208	3,245	254,920	259,445	221,889	212,551

Source: Reprint Database, ICE-Politecnico di Milano.

Concerning the geographical distribution of participated companies abroad, at the beginning of 2004 the weight of EU, before its enlargement, was over the 47% of the total.

Across countries, the main target of Milan's firms seems to be France as it is evidenced by 408 firms participated there with over 29.000 employees. Compared to the national average, it is possible to observe that Milan's firms are less inclined to invest in low-cost labour countries, as Middle-East Europe or North Africa. Vice versa, their presence in EU countries and in Latino America is stronger than the average, despite large divestments of share that interested these regions as well as Asia.

**Table 1.5.20** - Foreign enterprises participated by Milan's enterprises, by geographical area, on 1st January 2004

	Participated enterprises			Partecipated enterprises employees		
	N.	%	% on Italy	N.	%	% on Italy
European Union (15 countries)	1,532	47.2	25.9	96,532	45.4	23.5
France	408	12.6	27.5	29,209	13.7	28.3
Germany	249	7.7	21.9	19,288	9.1	18.9
Greece	64	2.0	45.7	4,987	2.3	56.5
Netherlands	116	3.6	34.5	7,144	3.4	51.1
UK	262	8.1	24.7	14,886	7.0	20.3
Spain	224	6.9	26.2	14,487	6.8	31.2
East Europe	318	9.8	11.7	21,006	9.9	9.2
Poland	68	2.1	17.3	4,546	2.1	12.0
Czech Republic	25	0.8	16.6	3,880	1.8	25.3
Romania	62	1.9	8.7	3,386	1.6	6.1
Russia	33	1.0	21.0	2,893	1.4	5.4

Hungary	28	0.9	15.5	1,233	0.6	8.0
Other European countries	204	6.3	36.0	9,518	4.5	19.3
Malta	8	0.2	28.6	2,589	1.2	81.9
Switzerland	128	3.9	39.9	2,376	1.1	10.6
Turkey	34	1.0	26.4	3,993	1.9	18.4
North America	325	10.0	18.8	19,041	9.0	21.2
Canada	45	1.4	21.5	2,338	1.1	15.6
USA	279	8.6	18.4	16,702	7.9	22.3
Latin America	308	9.5	24.0	23,527	11.1	16.7
Argentina	88	2.7	36.8	8,032	3.8	36.2
Brazil	104	3.2	21.6	10,718	5.0	14.0
Asia	385	11.9	22.4	28,515	13.4	28.6
China	88	2.7	18.6	3,598	1.7	11.1
Japan	37	1.1	24.7	1,574	0.7	27.2
India	42	1.3	27.5	3,249	1.5	31.9
Kazakistan	11	0.3	31.4	2,164	1.0	73.5
Africa	136	4.2	14.1	12,540	5.9	15.9
Egypt	18	0.6	20.2	3,224	1.5	48.8
Marocco	16	0.5	14.0	4,869	2.3	46.6
Oceania	37	1.1	24.0	1,872	0.9	16.3
Total	3,245	100.0	21.6	212,551	100.0	19.2

Source: Reprint Database, ICE-Politecnico di Milano.

#### 1.5.4.2 Foreign investments in Milan

Even concerning passive internationalisation, the long term dynamics shows the Province of Milan being less lively comparing to the regional and national data.

At the beginning of 2004 industrial companies with foreign participations located in Milan were 25,8% of the total at national level. Despite such a data is quite important, it shows a decrease of more than 10 percentage points with respect to the equivalent value measured during the half of 80s. At the same time factories located in Milan represent the 18,2% of the total, against the equivalent of 24,2% measured 18 years before.

According to the number of employees in companies with foreign participations, there is an equal division between industry and services sector.

By comparing this number with the national value it appears clear how much foreign participations in the Province of Milan are important, especially for tertiary sector, industrial data processing services, telecommunications and professional services and finally for the wholesale trade (where most of the firms are trading affiliated of manufacturing corporate).

Even referring to the manufacturing sector, the foreign presence is particularly important especially for high tech sector, both in comparison with the national level and in absolute terms.

**Table 1.5.21** - Enterprises with foreign participations located in the Province of Milan, by sectors on 1<sup>st</sup> January 2004

	Headquarters of enterprises with foreign participations			Enterprises with foreign participations employees (a)		
	N.	%	% on Italy	N.	%	% on Italy
Mining industry	4	0.1	17.4	71	0.0	4.6
Manufacturing industry	679	22.4	25.8	156,989	46.2	25.6
EE, gas and water	16	0.5	14.5	4,468	1.3	46.3
buildings	30	1.0	33.3	5,406	1.6	59.7
Wholesale trade	1,402	46.3	52.0	67,889	20.0	58.9
Transports and logistics	133	4.4	34.5	14,496	4.3	30.7
Informatics and	323	10.7	58.7	59,237	17.4	70.1

telecommunication services						
Other services	440	14.5	61.7	31,530	9.3	55.6
Total	3,027	100.0	42.0	340,086	100.0	36.2

(a) Employees of enterprises with foreign participations and headquarters located within the Province of Milan.

Source: Reprint Database, ICE-Politecnico di Milano

By looking to the most recent dynamics it is possible to observe that all sectors within the tertiary division are registering an increasing trend. This trend is particularly remarkable in absolute terms in informatics, telecommunications and professional services.

Negative is, instead, the balance of the manufacturing sector. During the last three years enterprises with foreign participations lost over 20.000 employees, of whom 11.000 belonged to the electrical products sector and other 5.000 to the food and beverage sector.

Focusing, finally, on the countries where investments come from it appears that 57,2% is coming from EU countries (1731 enterprises), followed by US (26,7%), Switzerland (6%) and Japan (5,8%) in order of importance.

**Table 1.5.22** - Milan's enterprises participated by foreign enterprises, by sectors. 1st January 2001 – 1st January 2004

	Enterprises with foreign participations				Enterprises with foreign participations employees			
	2001	2002	2003	2004	2001	2002	2003	2004
Mining industry	5	4	4	4	53	37	71	71
Manufacturing industry	672	669	667	679	176,152	168,287	157,934	156,989
EE, gas and water	10	15	16	16	755	3,189	4,348	4,468
buildings	21	32	31	30	1,768	5,131	5,430	5,406
Wholesale trade	1,314	1,350	1,359	1,402	61,247	63,247	66,671	67,889
Transports and logistics	120	128	129	133	12,585	14,490	14,304	14,496
Informatics and telecommunication services	301	319	323	323	52,266	62,196	59,799	59,237
Other services	404	426	427	440	24,539	28,375	30,709	31,530
Total	2,847	2,943	2,956	3,027	329,365	344,952	339,266	340,086

Source: Reprint Database, ICE-Politecnico di Milano.

**Table 1.5.23** - Enterprises with foreign participations located in the Province of Milan, by geographical investors' origin, on 1<sup>st</sup> January 2004

	Headquarters of enterprises with foreign participations			Enterprises with foreign participations employees (a)		
	N.	%	% on Italy	N.	%	% on Italy
European Union (15 countries)	1,731	57.2	39.2	188,818	55.5	36.5
Austria	20	0.7	18.7	2,882	0.8	32.2
Belgium	51	1.7	27.1	5,105	1.5	32.8
Denmark	39	1.3	30.0	1,521	0.4	26.0
Finland	19	0.6	33.9	1,935	0.6	21.9
France	504	16.7	43.0	64,968	19.1	44.4
Germany	479	15.8	40.8	47,723	14.0	38.4
Netherlands	169	5.6	36.8	21,064	6.2	39.4
UK	292	9.6	44.4	32,183	9.5	32.7
Spain	53	1.8	30.8	2,174	0.6	27.2
Sweden	79	2.6	36.6	8,136	2.4	19.7
East/Middle Europe	18	0.6	40.0	309	0.1	47.1
Other European countries	200	6.6	43.3	22,452	6.6	41.0
Norway	13	0.4	32.5	1,458	0.4	38.0
Switzerland	181	6.0	44.9	20,042	5.9	42.0
Africa	13	0.4	34.2	1,140	0.3	37.4
North America	828	27.4	47.5	112,872	33.2	36.4

Canada	20	0.7	47.6	3,314	1.0	42.5
US	808	26.7	47.5	109,558	32.2	36.3
Latin America	4	0.1	17.4	1,365	0.4	22.8
Argentina	2	0.1	18.2	1,329	0.4	26.4
Asia	224	7.4	50.1	12,815	3.8	29.5
Japan	175	5.8	55.6	9,893	2.9	31.4
Oceania	9	0.3	33.3	315	0.1	8.6
Total	3,027	100.0	42.0	340,086	100.0	36.2

(a) Employees of enterprises with foreign participations and headquarters located within the Province of Milan

Source: Reprint Database, ICE-Politecnico di Milano



## **1.6. FIRM'S AGGLOMERATION: CLUSTERS AND NETWORKS**

Industrial districts are not only an industrial organisational phenomenon but also represent an essential characteristic of the Country. Their origin, in existence for decades and sometimes for hundreds of years, dates back to a complex network of socio-cultural and economic relationships, in the productive realities of Italian cities and small centres. Nowadays districts are again at the centre of new interests. The topics of discussion focus on the future perspectives of this model, considered for sometime the basis for Italian growth and exports (they cover over 40% of employment in national manufacturing and exports), due to the pressures of competition deriving from the opening up of markets worldwide; the so called globalisation. At the same time, on the other hand many developing countries are studying this model with great interest. A model based on small and medium enterprises and characterised by a high percentage of flexibility and the existence of external economies funded on knowledge, often diffused informally and consolidated over a period of time. A situation that could be successfully duplicated as has already occurred. An example of this is represented by the concentration of small enterprises identified in countries like Morocco, Turkey or Central and Southern America in Brazil and Mexico. For Italian districts these examples could represent an opportunity that should not be underestimated, given the next and most important challenge they are called to face: remaining competitive in a global market, applying different kind of partnerships with productive realities of other countries without losing those peculiarities which represent their strength.

Industrial districts have been introduced in Italy according to the law 317/91, which defines them as territorial systems, geographically restricted and consisting in contiguous areas with a high concentration of small enterprises characterized by the same productive specialization, and committed in manufacturing consistent products with different methods. Industrial districts have been created with the aim of identifying areas of productive excellence, in other words poles of development (or growth poles), with a high technology potential, that will be provided with public policies of intervention. Regione Lombardia, one of the first institutions to carry into effect the national law with its L.r. 7/93, established the criteria to identify every single district, and the lines for the definition of Development Programmes, into which funded projects will be organized. At first, according to this intervention policy, 21 industrial districts were singled out. In year 2000, the Regional Law 1/2000 "Rearrangement of the Self-government Systems", that provided for the revision of the regulations on Industrial Districts, introduced 16 new Industrial Districts on the basis of new criteria and standards. Interesting features of this policy are the tools, aimed at the intervention in driving production sectors for the regional economy, placed at disposal of the Regions.

This new re-organization requires that Regione Lombardia and Provincia di Milano, which supports actions to strengthen productive clusters, supply grants at SMEs and institutions in a different way.

Regione Lombardia singled out different kinds of districts:

- "traditional" of production specialization, resulting from economic and social indicators for local development deriving from government regulations;
- "thematic", also known as "meta-district", identified by consistent production areas and markets, rather than production specializations;
- "technological", on the basis of a programme agreement on research with the Ministero dell'Istruzione, dell'Università e della Ricerca;
- other types of district clusters.

The industrial district appears as a system, integrated in international markets and its success is due to the close net of relations between the enterprises and the participants of the development. This territorial network enhanced the merging of the state of the art technologies and spreaded useful "knowledge" among the management.

### 1.6.1. Industrial districts and meta-districts

According to the law L.r. 1/00, with two different Council Resolutions ( D.G.R. n.VII/3839 of 6/03/2001 and D.G.R. n.VII/6356 of 05/10/2001), there are sixteen industrial districts and six meta-districts. The Provincia di Milano, within the ambit of the first scheduling of the Industrial Districts support activities, actively coordinated and supported projects carried out by enterprises belonging to industrial districts. These projects aim at:

- creating service and information centres for enterprises, research labs, and technology transfer centres;
- supporting internationalization activities of the districts;
- reclaiming disused industrial sites to reintegrate small and medium enterprises.

The territory of the province of Milan is affected by three industrial districts, none of which is geographically limited within it. The following table shows the three districts of the Milanese area and the municipalities belonging to each district.

**Table 1.6.1** - Districts of the Milanese area and the municipalities belonging to each district

Code. of Districts	Area	Sector	Milanese Municipalities
2	LECCHESI	Metal production and processing	Besana Brianza, Briosco, Renate, Veduggio con Colzano.
9	EST MILANESE	Electric, electronic and medical equipment	Agrate Brianza, Burago di Molgora, Busnago, Caponago, Carugate, Cassina de' Pecchi, Cavenago Brianza, Cernusco sul Naviglio, Concorezzo, Cornate, Liscate, Mezzago, Ornago, Peschiera Borromeo, Pessano con Bornago, Pioltello, Rodano, Roncello, Segrate, Settala, Trezzano Rosa, Vignate, Vimercate, Vimodrone.
10	BRIANZA	Furniture	Albate, Arcore, Barlassina, Biassono, Bovisio Masciago, Carate Brianza, Cesano Maderno, Desio, Giussano, Lazzate, Lentate sul Seveso, Lissone, Macherio, Meda, Misinto, Nova Milanese, Seregno, Seveso, Solaro, Sovico, Varedo, Vedano al Lambro, Verano Brianza

The industrial districts specified by the Regional Council Resolution n. 3839 of the 16th of March 2001, have been territorially bounded through the calculation of two rates for each Lombard municipality:

- industrialization rate;
- specialization rate.

The industrialization rate represents the ratio between the total manufacturing workers and the resident population.

The specialization rate represents the ratio between the workers of every division of the manufacturing industry and the resident population.

The district areas have been defined through the aggregation of neighbouring municipalities with an industrialization rate superior to 18,5% (that represents the regional average rate increased of 30%), and a specialization rate superior to 20% of the regional average. Some municipalities geographically inside these areas have been included in the districts even if their rates were inferior to the threshold.

The economic structure of some provinces (Pavia, Lodi, Cremona, Sondrio) has an industrialization rate inferior to the regional average. For these provinces the threshold of reference is 14,2%, in other words the pure regional average (not increased of 30%). In these areas the priority indicator is the specialization rate.

The 16 Districts include 302 municipalities belonging to 10 provinces. Of these, 7 are specialized in the textile – clothing sector, 3 in metal production and processing, 2 in the footwear industry, 1 in the furnisher sector, 1 in the wood industry, 1 in the electric - electronic equipment sector, 1 in plastic - rubber industry.

**Table 1.6.2 - Industrial districts in Lombardy (Population and territory)**

District		Number of municipalities	Surface (Km <sup>2</sup> )	Demographic density (Km <sup>2</sup> )	Resident population 31-12-99
1	Valle dell'Arno	11	46,35	879,87	40,782
m2	Lecchese	40	310,08	668,94	207,425
3	Valli Bresciane	49	800,99	365,70	292,922
4	Serico Comasco	27	171,62	1.107,72	190,107
5	Valseriana	10	118,12	399,09	47,141
6	Castelgoffredo	15	353,96	168,99	59,817
7	Bassa Bresciana	8	188,06	187,15	35,195
8	Sebino	11	81,33	478,15	38,888
9	Est Milanese	28	249,46	1.134,89	283,109
10	Brianza	36	258,43	1.743,35	450,534
11	Bergamasca-Valcavallina-Oglio	26	229,21	602,77	138,161
12	Lecchese Tessile	9	32,59	775,73	25,281
13	Bassa Bresciana	12	210,56	203,20	42,785
14	Gallaratese	9	124,70	1.035,27	129,098
15	Vigevanese	8	269,95	342,14	92,362
16	Casalasco-Viadanese	13	406,90	132,21	53,797
<b>Total Districts</b>		<b>312</b>	<b>3.852,31</b>	<b>10.225,18</b>	<b>2,127,404</b>
<b>Total Lombardy</b>		<b>1.546</b>	<b>23.860,62</b>	<b>379,93</b>	<b>9,065,440</b>

Source: Istat.

### District 10: Brianza

The Brianza district covers 300 sq km and has 45 towns: 19 in the province of Como (main center is Cantù) and 26 in Milan (in particular Desio and Seregno). There are 38,750 companies with 160,000 employees in the area including three different production systems in synergy (furniture, mechanical, and textile): 48,2%, equal to 6,500 units and 30,600 employees, operate alone in the wood-furniture sector. Brianza is the oldest Italian furniture district and today holds 18.5% domestic production and 5.2% European. The district's business is concentrated in manufacturing furniture and wood objects, metal furniture, and home accents. The Cantù' artisan sector originated in mid XIX century, initially as a business connected to agriculture, later limited by land aridness and excessive rural concentration in the hands of few noble families. The birth of local know-how was favored at first by the request for reproduction furniture for the nobility and bourgeois, then by the Milanese market proximity, by the presence of Scuola d'Arti e Mestieri (arts and trade school) founded in 1882 delivering professional training. Important were also at the end of the 1800s the Esposizioni Permanenti (permanent exhibits), consortiums to facilitate sales by calling in loco customers interested in purchasing. Worth mentioning are also the presence of organizations promoting the district's growth through: a quality research and development center, "Ente Qualità Cantù" founded in 1981, and Clac (Centro Legno Arredo Cantù), for the wood and furniture business, endorsed also the Galleria del Design e dell'Arredamento (design and furniture Gallery), and Centro di Formazione Professionale per il Mobile (professional training center for Furniture industry). During the 1970s the crisis of the district was determined by the Arts and Masters School converting its primary role and joining the State operated Art Institute however not always meeting the needs of the local industry. Today, Brianza has a fragmented economy dominated by artisan companies; the secret to success of its furniture industry, placed in a high market segment, is the opportunity to customize thus meeting clients' needs. Customization goes from a sophisticated project of a great design name to anonymous furniture of a small workshop distinguishing itself by solidity and price competition. Certain importance comes also from various other businesses, developed in the last decades to link furniture production: cutting, lacquering, gold plating, padding, metal works, marble, glass and

crystal, as well as marketing raw material, hardware, brassware, and fabrics. However, quality finishing, design, and style are always fundamental.

### **District 2: Lecchese**

The Lecco district lies on 644sq km comprising the Milan, Como and Lecco provinces. The metal-engineering industry involves 3,631 companies with 35,583 employees (half of total manufacturing employment of the area) to comprise production of metal and alloy, metal fabrication, and machine making. The steel industry vocation of the area dates back to the Roman Empire; the elements favoring the early start were: discovery of metalliferous arteries in Valsassina and Valvarrone; a patrimony of woodland supplying carbon fossil for the smelting-furnaces; obtaining motor energy from the plenty watercourses to operate machines; proximity to the Milan market. Under the Visconti and Sforza domains the extraction business boosted; between the 15th and 16th centuries also Leonardo da Vinci gave his contribution by inventing hydraulic powered machinery and by seeking communication improvement. It was early 1800s when the Lecco metallurgic industry began to structure as an area-system: small and large forges as well as wireworks guaranteed a simple but successful organization. In 1950 “Giuseppe Badoni & Comp” was founded and represented the largest enterprise in the territory: this company had the merit of advancing modern procedures and stimulate the entire industrial context of the area. Lecco pole consolidation continued throughout the 1900s: a great boost was given in the 1960s when enterprises spontaneously gemmed and widely flourished. Today, the Lecco district exports 30% of products to Europe, America and Asia. The Lecco district today is an extended area-system, qualified by process rather than product, able to conquer a competitive edge in the international market for image and excellence. The companies’ technical reliability, high quality in production and job processing, as well as a high specialization in niche markets: Lecco engineering industry has built its success around these elements. By using the two most important factors in customer approach and competitiveness, i.e. high productive flexibility, prevalently “custom made”, and problem solving ability, this industry has succeeded. In fact, the result of a tight cooperation with the customer, based on an acquired patrimony of technical know-how, transforms the Lecco industry into a partner national and international commissioning.

### **District 9: EST Milan**

The district east of Milan (the only Lombardy district identified with precision mechanics) covers 24 municipalities in the Milan province, 2 in the Bergamo province (Medolago and Solza), 1 in the Lecco province (Verderio Inferiore) and 1 in the Lodi province (Merlino), totalling 427 enterprises and 533 local units mainly specialising in the production of electric, electronic and medical equipment. The specialisation sector is articulated in three productive segments:

- office equipment and computers (subsection 30 of the NACE Rev. 1 classification of economic activities), which includes 33 enterprises and 45 local units;
- electric N.C.A. machines and equipment (subsection 31 of the above mentioned classification), including 269 enterprises and 352 local units;
- medical and surgical equipment, precision apparatuses and optical instruments with 125 enterprises and 136 local units (group 33.1 of the NACE Rev. 1 classification).

The most important productive poles are Peschiera Borromeo and Vimercate (both with 74 enterprises and 82 local units operating in the above mentioned specialisation sectors), the Cernusco sul Naviglio (which hosts 35 enterprises and 48 local units) and Pioltello comuni (with 35 enterprises and 38 local units).

Figure 1.6.1 - Brianza District



Figure 1.6.2 - Lecchese District

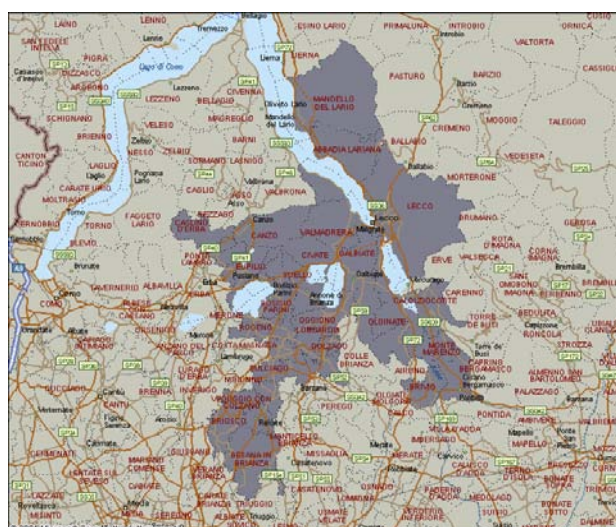
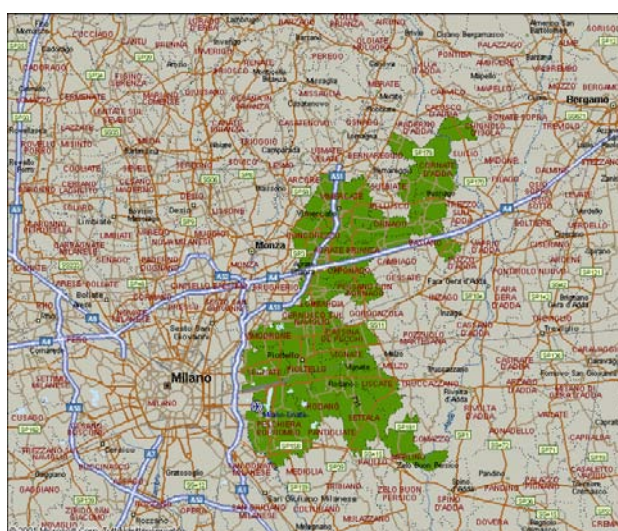


Figure 1.6.3 - Est Milan District



### Meta-districts

Meta-districts instead, represent thematic areas of horizontal intervention, not territorially limited and driven towards a strong inter-sectorial integration, that transfer knowledge to applications. There is a deep difference between meta-districts and traditional industrial districts. Meta-districts do not depend from territory boundaries because the classification has a thematic basis. This produces a territorial network that binds geographically distant areas. Meta-districts are new geographic divisions with the purpose of identifying on the territory productive chains with a high technology potential, where specialized enterprises and research centres can cooperate.

Particularly the new methodology for the definition of the criteria for the organization and the development of industrial districts implies a more efficient way of allotment of grants to SMEs and district institutions. There is much scope for support to research, human resource training and knowledge, which is a fundamental “movable” resource that allows more dynamic and fluid development models, as new technologies do.

The recent regulation includes new perspectives surfaced from the revision of the criteria and from the observation of general social - economic phenomenon and trends, such as productive decentralization, internationalization, and technology development.

In particular, there is the need to identify the territory not only with one sector, but with the variety of specializations of every single area; to assess all aspects of the district system in order to intervene on more levels. The new criteria are based not only on descriptive and statistical data of an existing system, but also on a more dynamic interpretation grid capable of forecasting the evolution of the potential of technology development and its impact on the local production system, in order to make regional policies of intervention more effective.

The organization and management of regional grants become more dynamic and versatile in order to meet not only pre-existent requirements, but also the ones emerging from the new growth paths.

This measure underwent three changes. The first one is strictly tied to the identification on the territory of geographical divisions, that represent areas with enterprise specialized in a few different sectors, such as food and non food biotechnologies, fashion, design, new materials. The second innovative element is the territorial scale of meta-districts. The territorial contiguity has had a fundamental role in the definition of traditional districts of productive specialization as a necessary condition for the existence of relations between enterprises, and of technology and learning exchange processes. The relations enterprise - territory and enterprise - enterprise in the meta-district undertake different connotations if the objective is to draw up research to production. As a matter of fact, there is a different level of territorial integration and inter-dependence depending on the kind of research and its degree of specialization. In other words the lower the level of specialization of research, the stronger the bind with the local productive context. For highly specialized enterprises, both for the kind of research and the competencies, the level of integration and penetration becomes provincial, regional, or national. Finally, the third innovative element is the consideration of research as a qualitative element of industrial systems. Regione Lombardia intends to enhance and structure the system of relations between enterprises, labs, research centres and the universe of production activities.

Using the definition of specialization chains, instead of sectors of specialization, allows to intervene on the "value chain" of a particular area, and to understand how to strengthen the relation between enterprises and territory. For example, the sectors involved in meta-district of Fashion and New Materials go from the preparation and spinning of textile fibres to the construction of textile machines, and machines for leather goods, jewels, buttons, travel goods, footwear, glasses, lenses, optic elements and optic fibres; from the production of precious materials to the manufacturing of machines for plastic materials, plastic packaging, plastic goods for construction and ceramic products for industrial use. The strategic objective of this model is to exploit the synergy between sectors, in order to have a healthy contamination both in sectors belonging to the same production chain and in different production chains.

The Regione Lombardia is engaged in supporting the development of meta-districts through calls for funding intended for projects aimed at promoting excellence. With the resolution of December 10th 2003, the Regione approved the allocation of 25.000.000 euros for Research & Development projects and Integrated projects (Research and Development and Investment and Innovation) of which 5.000.000 euros for each of the thematic areas.

**Table 1.6.3 - Meta-districts in Lombardy**

	<b>Municipalities</b>	<b>Workers</b>	<b>Population</b>
<b>Fashion</b>	126 (12)	120,406	2,695,100
<b>New Materials</b>	103 (31)	32,748	3,131,829
<b>Other biotechnologies</b>	58 (33)	46,266	2,805,058
<b>Food biotechnologies</b>	121 (14)	30,455	2,608,767
<b>ICT</b>	26 (17)	33,878	2,782,348
<b>Design</b>	64 (26)	44,958	2,367,347

- Food biotechnologies Meta-district: involves 121 municipalities of the 11 Lombardy provinces, among



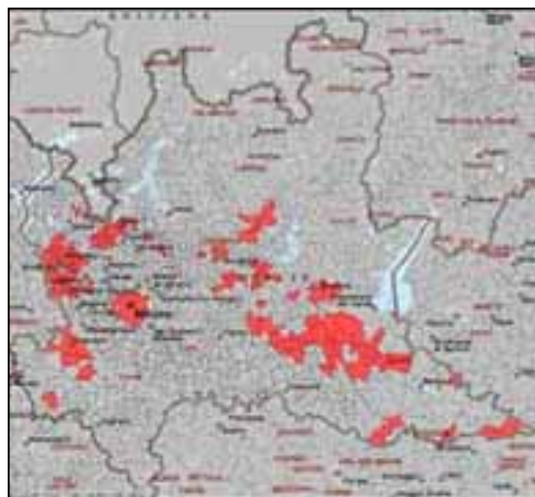
them the municipality of Milan and other 13 municipalities of the province. This meta-district has 11 research centres and 30.455 workers.

- Biotechnologies Meta-district: involves 58 municipalities of 8 provinces of the region, among them Milan and other 32 municipalities of Milan's province, and includes 26 research centres and 46.266 workers.
- Design Meta-district: involves 64 municipalities of 6 provinces of Lombardy, among them Milan and other 25 municipalities of Milan's province, and includes 11 research centres, 44.958 workers.
- Material Meta-district: involves 103 municipalities of 10 provinces of Lombardy (except Cremona), among them Milan and other 30 municipalities of Milan's province. This meta-district includes 29 research centres and 32.748 workers.
- Fashion Meta-district: involves 126 municipalities of 9 provinces of Lombardy (apart from Sondrio and Lecco), among them Milan and other 11 municipalities of the province, and includes 4 research centres and 120.406 workers.
- Innovation & Communication Technology: involves 17 municipalities of Milan's province (Milan is among them) and was identified in March 2004.

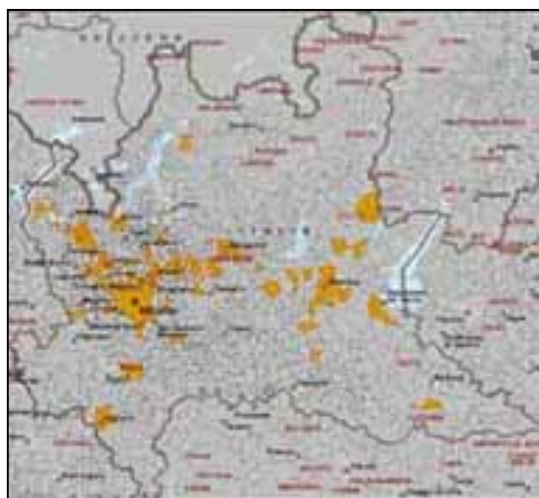
**Figure 1.6.4 - Food Biotechnology Meta-district**



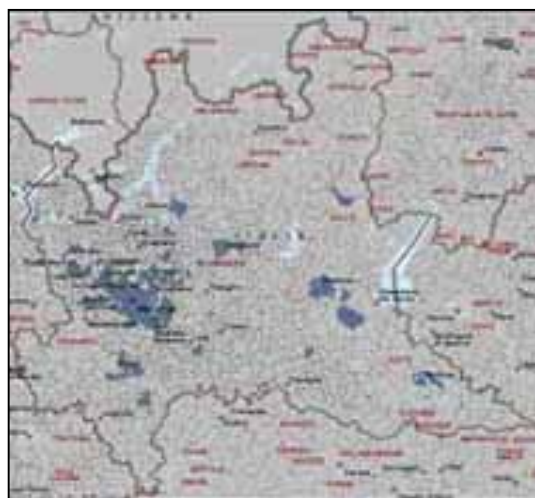
**Figure 1.6.5 - Fashion Meta-district**

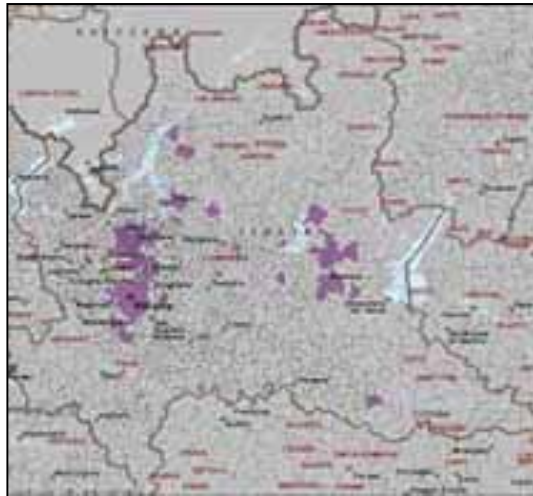


**Figure 1.6.6 - Advanced Material Meta-district**



**Figure 1.6.7 - Biotechnology Meta-district**



**Figure 1.6.8 - Design Meta-district**

### 1.6.2. Technological districts

The Guide-Lines of the Government's Scientific and Technology Policy, approved by CIPE the 19th of April 2002, have as objective for the axis IV the promotion of territorial capacity, in order to enhance the competitiveness of the existing productive areas with a high export intensity, revitalizing and re-launching them through research and development of qualifying key technologies for product, process and organizational innovations. The Guide-Lines single out as a tool the development of a concerted plan aimed at creating synergies between programmes and financial complementarities. As a matter of fact, the Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR) considers the creation of high tech districts as a priority. The Regione, together with MIUR, is committed in supporting the creation of **Technological Districts**, which involve a combined engagement of Ministry, Region, University, Local Bodies, scientific world, industrial world, and associations with the support of innovative forms of funding. Lombardy has a wide legacy of technological and scientific competencies, at a very high level of international excellence for some sectors. This gives the Regione Lombardia the possibility to stimulate the communication with territorial partners and other public administrations in order to enhance the existing specializations.

For this purpose the 22nd of December 2003 the MIUR and Regione Lombardia have undersigned a Protocol Agreement identifying **Biotechnologies**, **ICT** and **Advanced Materials** as technological sectors of strategic interest for the development of excellence in the economic system of Lombardy, and committing themselves in the definition of three Programme Agreements concerning research. The costs of MIUR's resources has been fixed to 30.000.000 euros, while Regione Lombardia's costs are not less than 60.000.000 euros. Milan's metropolitan territory represents the heart of all Lombard technological districts.

The relevant factors for the identification of the districts have been:

- the level of employment in the productive divisions;
- the presence of universities, labs and research centres in the sector;
- the Lombard export entity;
- the patent capacity of enterprises.



### **1.6.3. Other typologies of districts**

Other type of districts are intended as micro-clusters, in other words small complete systems with a high level of technological knowledge, qualified competencies, complete supply of products and services, and with the opportunity of exploiting different synergies in the sector.

An example of this is the audio-visual district of Cologno Monzese. It developed on the North of Milan in consequence of the important growth of the television market during the 80's. It represents a sort of micro-cluster because it is formed by small and micro enterprises with a high level of knowledge, whose activities rotate around the Mediaset Group, which attracted on the territory audio-visual enterprises and encouraged the creation of an active network.

Although Cologno Monzese presents features of a district, it can't be considered so because of the absence of a community of reference: as a matter of fact there is no integration between enterprises and production on one hand, and territory and society on the other. This system is better acknowledged as a model of net factory, where a localized system of SMEs relies on a big enterprise.